REPORT OF THE COMMITTEE ON ZONING AND PLANNING

Voting Members:
Brandon J.C. Elefante, Chair; Esther Kia'āina, Vice-Chair;
Radiant Cordero, Calvin K.Y. Say

ADVANCE COPY

Committee Meeting Held
March 10, 2022

Honorable Tommy Waters
Chair, City Council
City and County of Honolulu

Mr. Chair:

Your Committee on Zoning and Planning to which was referred Resolution 22-1 entitled:

"RESOLUTION APPROVING THE AIRPORT AREA NEIGHBORHOOD TRANSIT-ORIENTED DEVELOPMENT PLAN,"

introduced on January 5, 2022, reports as follows:

The purpose of Resolution 22-1 is to approve the Airport Area Neighborhood Transit-Oriented Development Plan (the "Airport TOD Plan"). The Honolulu Rail Transit Project (the "rail project") will have three transit stations in the Airport area: the Pearl Harbor (Makalapa) station, the Airport (Lelepaua) station, and the Lagoon Drive (Āhua) station.

On December 22, 2021, the Planning Commission held a public hearing on the Airport TOD Plan, at which no public testimony was received. The Planning Commission voted unanimously (9-0) to recommend approval of the Airport TOD Plan.

ADOPTED ON _____ COMMITTEE REPORT NO. 51

On February 23, 2022, the City Council held a public hearing on Resolution 22-1 and a proposed CD1 version thereof, at which no public testimony on the Resolution was received.

At your Committee's meeting on March 3, 2022, the Director of the Department of Planning and Permitting ("DPP") and the DPP TOD Administrator testified in support of the CD1 version of the resolution, and the additional amendments proposed by the Committee Chair via Council Communication 58 (2022).

Your Committee received no public testimony on the Resolution.

Your Committee has prepared a CD1 version of the Resolution that makes the following amendments:

A. In the text of the resolution:

1. In the BE IT RESOLVED clause, amends the date of the Airport Area Neighborhood TOD Plan to March 2022 (instead of November 2021); and

2. Makes miscellaneous technical and nonsubstantive amendments.

B. In the Exhibit A plan:

1. Makes the amendments detailed in CC-33 (2022) and CC-58 (2022). Also makes an additional amendment to proposed new Figure 6-4 to reference "FAA Glideslope Height Limits" (instead of "FAA Guidescope Height Limits"); and

2. Makes miscellaneous technical and nonsubstantive amendments.

Your Committee finds that the DPP has found that the Airport Area Neighborhood TOD Plan is consistent with the Primary Urban Center Development Plan established by Chapter 24, Article 2, Revised Ordinances of Honolulu 1990.

Your Committee on Zoning and Planning is in accord with the intent and purpose of Resolution 22-1, as amended herein, and recommends its adoption in the form attached hereto as Resolution 22-1, CD1. (Ayes: Cordero, Elefante, Say – 3; Noes: None; Excused: Kia'āina - 1.)

Respectfully submitted,

Committee Chair

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAIʻI

ADVANCE COPY

No. **22-1, CD1**

RESOLUTION

APPROVING THE AIRPORT AREA NEIGHBORHOOD TRANSIT-ORIENTED DEVELOPMENT PLAN.

WHEREAS, Sections 21-9.100 through 21-9.100-4 of the Revised Ordinances of Honolulu 1990 ("ROH"), enacted by Ordinance 09-4, establish a procedure for the creation of transit-oriented development ("TOD") special districts, and accompanying development regulations, to encourage appropriate TOD around Honolulu rail transit stations; and

WHEREAS, ROH Section 21-9.100-2 provides that for each TOD special district, a neighborhood TOD plan must be approved by the Council and will serve as the basis for the creation or amendment of a TOD special district and the TOD development regulations applicable thereto; and

WHEREAS, plans for the Honolulu rail transit project call for three stations in the Airport area—the Pearl Harbor/Makalapa Station (Kamehameha Highway and Radford Drive), the Daniel K. Inouye International Airport/Lelepaua Station, and the Lagoon Drive/Ahua Station (Lagoon Drive and Waiwai Loop); and

WHEREAS, the Department of Planning and Permitting ("DPP") and its consultant, AECOM Technical Services, Inc., have prepared a neighborhood TOD plan for the Airport area, dated November 2021, and referred to as the "Airport Area TOD Plan," to serve as the basis for the creation of a TOD special district around the three Airport area rail transit stations; and

WHEREAS, the process of creating the Airport Area TOD Plan was inclusive, with participation by residents, businesses, landowners, community organizations, government agencies, and others; and

WHEREAS, the process considered population, economic, market, and infrastructure analyses, including water, wastewater, and roadway system capacities; and

WHEREAS, the Airport Area TOD Plan is consistent with the Primary Urban Center Development Plan established by ROH Chapter 24, Article 5; and

WHEREAS, the Council desires to approve the Airport Area TOD Plan; now, therefore,

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAIʻI

No. **22-1, CD1**

RESOLUTION

BE IT RESOLVED by the Council of the City and County of Honolulu that, pursuant to ROH Section 21-9-100-2(f), the Council hereby approves the Airport Area TOD Plan (March 2022) attached hereto as Exhibit A and incorporated herein by this reference; and

BE IT FINALLY RESOLVED that copies of this resolution be transmitted to the Mayor, the Director of Planning and Permitting, and the Executive Director and Chief Executive Office of the Honolulu Authority for Rapid Transportation.

INTRODUCED BY:

Tommy Waters (br)

DATE OF INTRODUCTION:

January 5, 2022
Honolulu, Hawaiʻi

Councilmembers

EXHIBIT A

City and County of Honolulu

Airport Area Transit-Oriented Development Plan

March 2022

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Airport Area
Transit-Oriented Development Plan

Prepared for:
City and County of Honolulu
Department of Planning and Permitting

Prepared by:
AECOM Technical Services, Inc.

In collaboration with:
Colliers International Hawaii
Bill Chang, LLC

AECOM

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Figures

Tables

Acronyms

ADA	AMERICANS WITH DISABILITIES ACT
AMI	AREA MEDIAN INCOME
BID	BUSINESS IMPROVEMENT DISTRICTS
BWS	BOARD OF WATER SUPPLY
CBB	COMMUNITY BENEFITS BONUS
CFD	COMMUNITY FACILITIES DISTRICT
CIP	CAPITAL IMPROVEMENT PROGRAM
CITY	CITY AND COUNTY OF HONOLULU
CONRAC	CONSOLIDATED CAR RENTAL FACILITY
DCS	DEPARTMENT OF COMMUNITY SERVICES
DDC	DEPARTMENT OF DESIGN AND CONSTRUCTION
DFM	DEPARTMENT OF FACILITY MAINTENANCE
DHHL	DEPARTMENT OF HAWAIIAN HOME LANDS
DIT	DEPARTMENT OF INFORMATION TECHNOLOGY
DLNR	DEPARTMENT OF LAND AND NATURAL RESOURCES
DOD	DEPARTMENT OF DEFENSE
DOE	DEPARTMENT OF EDUCATION

DP	DEVELOPMENT PLAN
DPP	DEPARTMENT OF PLANNING AND PERMITTING
DPR	DEPARTMENT OF PARKS AND RECREATION
DTS	DEPARTMENT OF TRANSPORTATION SERVICES
ENV	DEPARTMENT OF ENVIRONMENTAL SERVICES
EUL	ENHANCED USE LEASE
FAA	FEDERAL AVIATION ADMINISTRATION
FAR	FLOOR AREA RATIO
FTA	FEDERAL TRANSIT ADMINISTRATION
GSA	GENERAL SERVICES ADMINISTRATION
HART	HONOLULU AUTHORITY FOR RAPID TRANSPORTATION
HDOT	HAWAII DEPARTMENT OF TRANSPORTATION
HRTP	HONOLULU RAIL TRANSIT PROJECT
HUD	U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
JBPHH	JOINT BASE PEARL HARBOR-HICKAM
LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LUO	LAND USE ORDINANCE
NAVFAC	NAVAL FACILITIES ENGINEERING COMMAND
NRHP	NATIONAL REGISTER OF HISTORIC PLACES
OTS	OAHU TRANSIT SERVICES, INC.
PBC	PUBLIC BENEFIT CONVEYANCES
PIM	PUBLIC INFRASTRUCTURE MAP
PUC	PRIMARY URBAN CENTER
RPZ	RUNWAY PROTECTION ZONE
RRFB	RECTANGULAR RAPID FLASH BEACON
SCP	SUSTAINABLE COMMUNITY PLAN
STATE	STATE OF HAWAII
TIF	TAX INCREMENT FINANCING
TOD	TRANSIT-ORIENTED DEVELOPMENT
U.S.	UNITED STATES
USDA	U.S. DEPARTMENT OF AGRICULTURE
USPS	U.S. POSTAL SERVICE
WWTP	WASTE WATER TREATMENT PLANT

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Executive Summary

Executive Summary

Overview

The Airport Area Transit-Oriented Development (TOD) Plan reflects the community vision for the areas surrounding the Pearl Harbor (Makalapa), Daniel K. Inouye International Airport (Lelepaua), and Lagoon Drive (Āhua) rail transit stations. The Hawaiian name corresponding to each rail station is in parenthesis. With the introduction of rail transit, the Airport area stations will offer new destination options to visitors, residents, and area commuters. This is an opportunity to recreate new land uses in the areas surrounding these stations. The result will be mixed-use districts and a multimodal circulation network connecting residents, workers, and tourists to key destinations, homes, and jobs.

Alternative concepts, including a draft vision and preliminary ideas for future land use and development possibilities near each station, were prepared based on the opportunities and issues evaluated during the existing conditions analysis and the ideas received from early community engagement. The alternative concepts were presented at a community workshop in February 2015 and at smaller stakeholder meetings during winter and spring of 2015. The TOD alternative concept maps depicted how each station area could be structured in terms of overall character, land use, transportation, and public improvements. Some of these improvements would be necessary to access the rail stations, and others represent potential long-term changes that capitalize on rail service.

A preferred alternative for each station was then developed using feedback received on the alternative concepts, reflecting the community vision for each station area. A public draft version of this plan was then prepared that focused on the details of the preferred alternative. The public review draft plan was released in March 2017 and presented at community and stakeholder meetings in April 2017. Comments received during these meetings and through other correspondence has helped shape this final plan.

Planning Process

Throughout the development of this plan, the City has received feedback from the community, stakeholders, and area business/property owners on the Plan's vision and principles, draft alternative concepts, and key features. All of this feedback has helped direct and shape the Plan.

Vision Statement

The Airport area is envisioned as the gateway to Hawaii and one of Oahu's premier employment centers. This working neighborhood provides something for everyone and is a dynamic center for trade, commerce, and military operations in the region.

Plan Principles

- Preserve the Airport /Lagoon Drive area as a primarily industrial and service-based employment center.
- Provide an accessible transportation network of streets and paths that balance efficient vehicular and freight access with safe pedestrian, bicycle, and public transit travel.
- Encourage dense, job-rich uses adjacent to the rail stations by ensuring adequate infrastructure capacity, including drainage and sea level rise accommodations.
- Introduce more urban land uses near Lagoon Drive to take advantage of the rail station, Keehi Lagoon Beach Park, and harbor views.
- Create a sense of arrival by encouraging gateway features at the main entrances to Joint Base Pearl Harbor-Hickam and the Airport, supported by wayfinding elements throughout the area.
- Utilize urban design elements that draw from and enhance the unique historical, cultural, and physical aspects of each station area.
- Integrate neighborhood-scale gathering spaces in a way that promotes safety and a sense of ownership.

Station Area Plan Highlights

Pearl Harbor Station Area

- Support the station with convenience retail, casual dining, bicycle storage, transit plaza, and small park.
- Redevelop property at Little Makalapa and the Federal Fire Department into a high-density, residential and commercial community.
- Repurpose the large surface parking lot serving The Mall at Pearl Harbor into a new civilian retail area.
- Redevelop Naval Facilities Engineering Command Hawaii's property into a new civilian community with various housing types, commercial and retail uses, a new elementary school, park, and community center.

Redeveloped Radford Drive Overpass and NAVFAC Hawaii Property near the Pearl Harbor Station

Note: this concept has not been officially endorsed by the federal government

Airport Station Area

- Key opportunities adjacent to the station include redevelopment of the surface parking lot and lei stands to convenience retail, dining, hotel, office space, and new lei stands.
- Creation of new iconic placemaking element(s) celebrating the Airport as the state's primary point of arrival/departure.
- Improved vehicular and pedestrian circulation, such as opening Koapaka Street to Rodgers Boulevard, and providing direct pedestrian access to the station across Rodgers Boulevard fronting the Post Office.
- Redevelop the Post Office employee parking lot into mixed industrial and commercial uses.
- Redevelop the areas along Paiea Street to accommodate higher density mixed-use with retail.

Redeveloped Paiea Street near the Airport Station

Lagoon Drive Station Area

- Support the station by providing large plazas, a kiss-n-ride, convenience retail, casual dining, bicycle storage, and a bikeshare rental facility.
- Re-designate key areas from industrial to mixed-use industrial to preserve current uses while encouraging redevelopment and higher density uses.
- Re-purpose State property along Lagoon Drive between Ualena and Aolele Streets into a district parking lot.
- Develop Honolulu Authority for Rapid Transportation property between Waiwai Loop and Keehi Lagoon Beach Park into retail with mixed uses, and provide for a multi-use path connecting the park with Waiwai Loop.

Redeveloped Lagoon Drive adjacent to the Station

Next Steps

Following are the next steps the City will be taking in the near term to move the Airport Area TOD Plan into action:

- Adoption of the Airport Area TOD Plan.
- Adoption of TOD zoning and Special District regulations around each of the three stations.
- Identify incentives and funding sources.
- Form partnerships with interested property owners.
- Advance short-term (0-5 years) improvements.

1.0
Background

1.0 Background

The Airport Area Transit-Oriented Development (TOD) Plan (Plan) embodies the community vision for the areas surrounding Pearl Harbor (Makalapa), Daniel K. Inouye International Airport (Lelepaua), and Lagoon Drive (Āhua) rail transit stations. The Hawaiian name corresponding to each rail station is in parenthesis. With the introduction of rail transit, the Airport area stations will offer new and improved travel options to visitors, residents, and area commuters. This is an opportunity to incorporate new land uses in the areas surrounding these stations. The result would be mixed-use districts and a multi-modal circulation network connecting residents, workers, and tourists to major destinations, homes, and jobs.

Development projects may be classified as "mixed-use" if they provide more than one use or purpose within a shared building or development area. Mixed-use projects may include any combination of housing, office, retail, medical, recreational, commercial, or industrial components.

Landowners who invest in the redevelopment of their properties as transit-oriented land uses will likely benefit through increased property values or revenues. Businesses would be enhanced and some new ones created, adding jobs to the area. Transit riders would benefit from the variety of services offered near the stations.

For each of the three Airport area stations, this plan specifies a land use and circulation framework to guide future development; identifies detailed policies and regulatory standards for urban design, parks, and community benefits and services; proposes land use changes; and recommends implementation measures to advance the community's vision into reality.

1.1 Honolulu Rail Transit Project

The City and County of Honolulu (City) Honolulu Authority for Rapid Transportation (HART), in partnership with the United States (U.S.) Department of Transportation Federal Transit Administration (FTA), is building the Honolulu Rail Transit Project (HRTP). The rail corridor will connect residential and employment centers in west Oahu with urban Honolulu. The HRTP is a 20-mile elevated rail line with 21 stations from East Kapolei to Ala Moana Center. Feeder buses will link stations to areas not directly served by rail. The HRTP will help alleviate traffic in this highly congested east-west transportation corridor and provide fast, reliable public transportation.

In the Airport area, the HRTP alignment runs along portions of Kamehameha and Nimitz Highways, Aolele Street near the Daniel K. Inouye International Airport, Ualena Street, Waiwai Loop, and then through Keehi Lagoon Beach Park (Figure 1-1).

Figure 1-1: Regional Location with Transit Corridor Stations

1.2 Project Purpose

In conjunction with the planning and design of the HRTP, the City Department of Planning and Permitting (DPP) has been creating neighborhood TOD plans for the areas surrounding the 19 transit station areas under its jurisdiction (two stations are under the Hawaii Community Development Authority). TOD is a pattern of mixed land uses surrounding a transit station that takes advantage of the proximity, use, and efficiency of rapid transit. Redevelopment over time is expected to contribute to increased housing, jobs, and services in the area.

1.3 Location and Planning Area

The Airport area stations (Pearl Harbor, Daniel K. Inouye International Airport, and Lagoon Drive) are located in the Primary Urban Center (PUC) region of Oahu, spanning from Joint Base Pearl Harbor-Hickam (JBPHH) to Daniel K. Inouye International Airport and the Lagoon Drive industrial area (Figure 1-2). The TOD planning area generally focuses on ¼-mile around each transit station and can extend beyond ½-mile, depending on location. This plan assesses the ½-mile zone within a broader region of influence to identify existing conditions and circulation needs.

Figure 1-2 illustrates these zones and other applicable planning areas based on the unique characteristics of the neighborhoods around the stations. These planning areas are described in further detail below.

¼-Mile Zone

This is the primary planning area and the zone of the rail project's greatest influence. Although heavily influenced by the connectivity of the street grid, the zone within a ¼-mile radius is generally considered a 5- to 10-minute walk from the station, which is well within what is considered a reasonable walk for an average pedestrian accessing rail transit.

½-Mile Zone

This zone is also expected to see investment as a result of rail. This is the secondary planning area and a zone impacted by access to rail transit. Although heavily influenced by the connectivity of the street grid, the zone within a ½-mile radius is generally considered a 10- to 15-minute walk from the station, which is the approximate distance that an average pedestrian is willing to walk to access rail transit.

Region of Influence

This extended area has few major destinations but a high number of residential units. As a result, this region has significant potential to drive ridership. It is anticipated that the majority of everyday commuters beginning their trip at these three stations will originate from this region of influence.

None of the three stations is planned to have park-and-ride facilities, so riders are expected to access the stations by bus, by bike, on foot, or by vehicle drop-off. Although the majority of this region of influence is beyond a standard pedestrian "walkshed" of ¼ to ½-mile, this region is within the FTA-defined 3-mile "bikeshed," or the distance people are typically willing to bike. Accessible bus routes connect this area to the stations. Rail ridership will depend heavily on the availability and efficiency of "first and final mile" station connections—that is, the accessibility of the route between a rider's starting location and the nearest rail station, and between a station and the rider's final destination.

1.4 Planning Process and Participation

Throughout the development of this plan, the City has received feedback from the community, stakeholders, and area business/property owners on the Plan's vision and principles, draft alternative concepts, and key features. An Advisory Committee was formed to provide a broad community-oriented perspective, and community meetings were held throughout the planning process. Additional meetings were held with potentially affected landowners, businesses, and organizations. Surveys were conducted with area business and property owners, employees, and the general public within the region of influence. All of this feedback has helped direct and shape the Plan. Figure 1-3 shows the planning and community involvement process, including input and resulting products.

Alternative concepts, including a draft vision and preliminary ideas for future land use and development possibilities near each station, were prepared based on the opportunities and issues evaluated during the existing conditions analysis and the ideas received from early community engagement. The alternative concepts were presented at a community workshop in February 2015 and at smaller stakeholder meetings during winter and spring of 2015. The TOD alternative concept maps depicted how each station area could be structured in terms of overall character, land use, transportation, and public improvements. Some of these improvements would be necessary to access the rail stations, and others represent potential long-term changes that capitalize on rail service.

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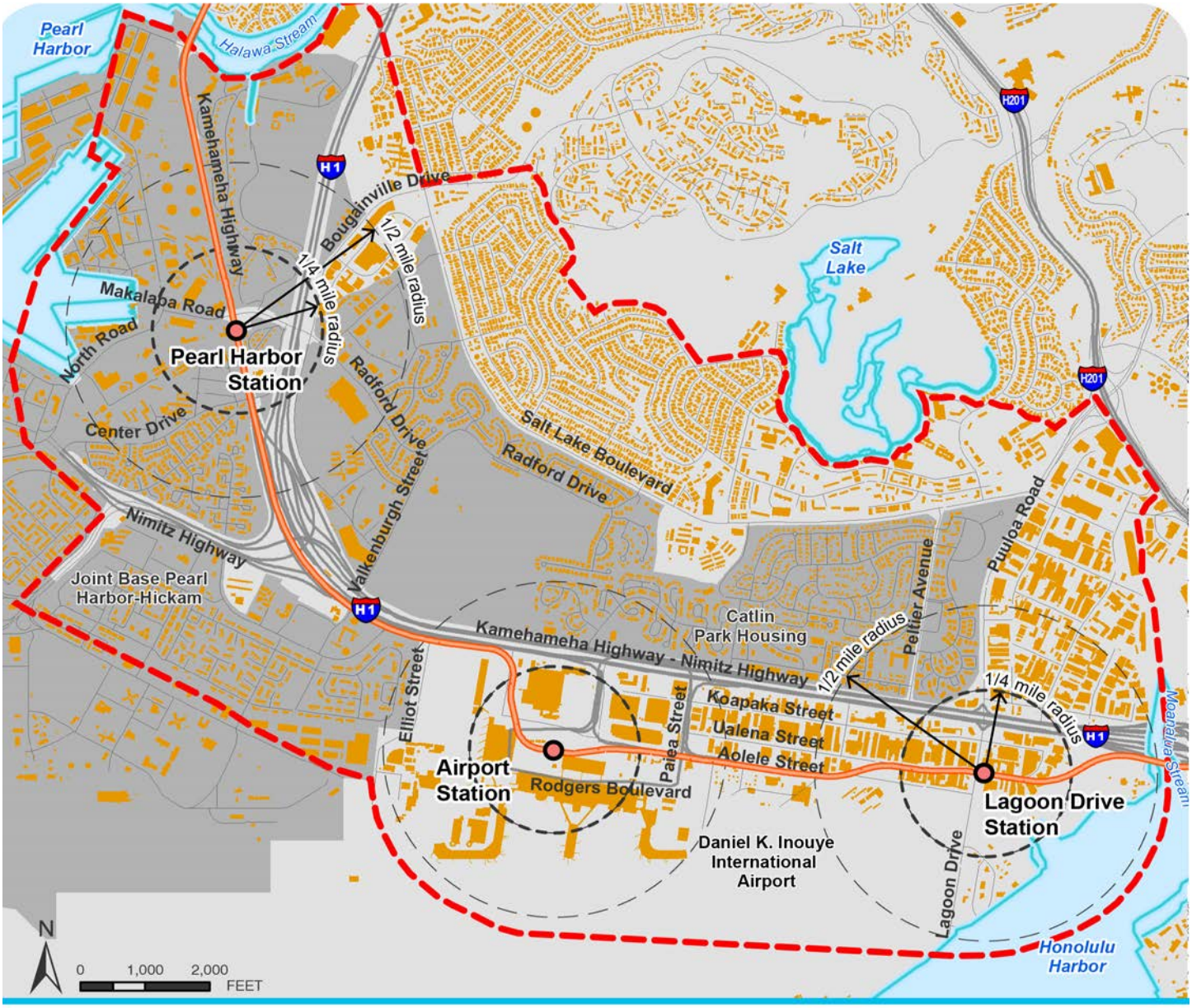


Figure 1-2: Region of Influence and Planning Areas

Sources: State of Hawaii, City & County of Honolulu DPP, HART, AECOM - 2016

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area
- Joint Base Pearl Harbor-Hickam
- Existing Structures

Figure 1-3: Planning and Community Involvement Process

2.0
Existing Conditions

2.0 Existing Conditions

This chapter provides an overview of applicable public plans and policies that guided the development of the Plan. This chapter also profiles existing conditions in the Airport area and summarizes planning opportunities and constraints for the three rail station areas: Pearl Harbor, Airport, and Lagoon Drive.

2.1 Existing Plans, Policies, and Laws

During development of the Plan, a number of City and State of Hawaii (State) plans and policies were considered, including many that promote and support transit-related development. These resources should also guide future TOD projects.

The City uses a tiered approach to planning and regulation of land use. The first tier (the broadest level) is the Oahu General Plan, which establishes objectives and policies guiding islandwide development. The next tier includes the Development Plan (DP)/Sustainable Community Plan (SCP), which focus on one of the eight specific geographic regions of Oahu. The third tier includes the City's Land Use Ordinance (LUO), which specifies zoning regulations to guide development.

Oahu General Plan

The Oahu General Plan, last revised in 2002, is a comprehensive statement of objectives and policies for the future of Oahu, and it presents the strategies and actions required to achieve them. The General Plan outlines the City's general policies on a variety of subjects, including growth and development issues. An update to the General Plan is underway that will add more focus on TOD and sustainability.

The Oahu General Plan and the Primary Urban Center Development Plan support TOD.

Primary Urban Center Development Plan

The three Airport area stations are located within the PUC DP region, which extends from Pearl City, west of the Airport area, to Kahala in east Honolulu. The PUC is Oahu's most populous region—an area where future population and economic growth will be concentrated. The PUC DP, last adopted in 2004, includes specific policies and guidelines for land use and infrastructure decisions over a 20- to 25-year period. An update of the PUC DP is currently in progress. The PUC DP promotes rapid transit and supports TOD.

Among other things, the PUC DP land use map describes land uses in the vicinity of the Pearl Harbor Station as commercial, industrial, residential, and open space. Land use in the vicinity of the Airport and Lagoon Drive Stations is described as primarily industrial, with some commercial and park/open space uses.

Land Use Ordinance

The LUO is the City's zoning code. The LUO regulates land use and facilitates orderly development in accordance with adopted land use policies, including the Oahu General Plan, the PUC DP, and other applicable planning documents. The LUO provides development and design standards for the location, height, massing, and size of structures, yard areas, off-street parking facilities, and open spaces.

Figure 2-1 shows the existing zoning designations with allowable building heights in the Airport vicinity. Almost all of the land within ½-mile of the Pearl Harbor Station is federally owned and is not subject to City zoning controls. These lands are identified as F-1 Military and Federal on the City's zoning maps.

In the vicinity of the Airport and Lagoon Drive Stations, almost all non-federal lands are zoned for industrial use. Building heights allowed in these areas vary from 60 to 160 feet, but many existing building heights are well below the limit.

Airport/Runway Zone Restrictions

In addition to the building height limits imposed by the City, the area around the Lagoon Drive Station is subject to safety restrictions imposed by the Federal Aviation Administration (FAA) (Figure 2-2). This station area is within the aircraft departure/approach path for Daniel K. Inouye International Airport Runways 22R and 22L. Established Runway Protection Zones (RPZs) are intended to protect people and property near the runways. Land use within the RPZ is restricted to uses that do not involve congregations of people, and the area must be clear of buildings and other obstructions. Structure heights are regulated according to a graduated "departure glideslope," extending out from the end of the runways. All future development in these areas must comply with these restrictions. Projects within five miles from the Airport are advised to read the Technical Assistance Memorandum published by the State of Hawaii Office of Planning and Sustainable

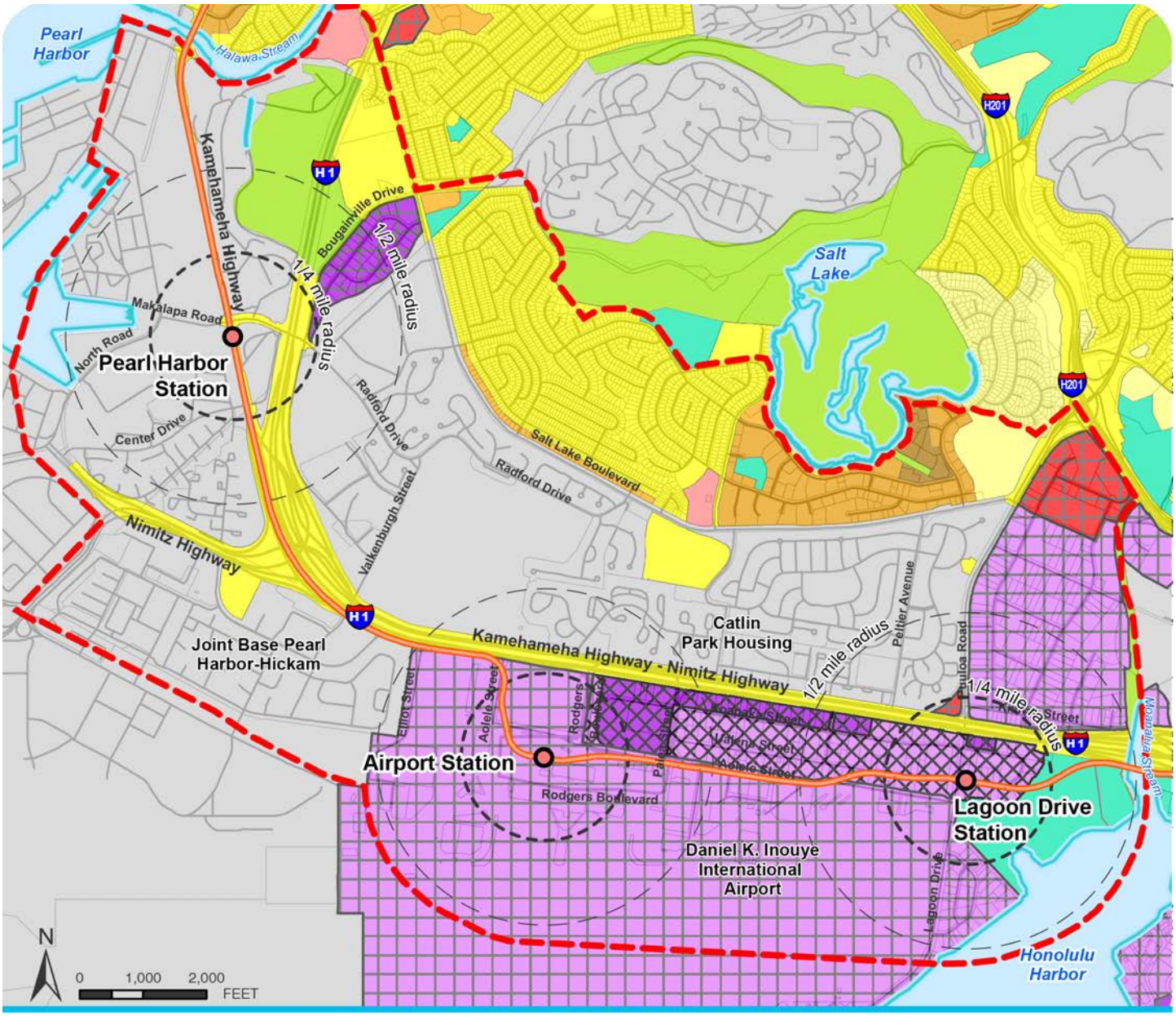


Figure 2-1: Existing Zoning Designations and Zoning Height Limitations

Sources: City & County of Honolulu DPP, HART, AECOM - 2016

Legend

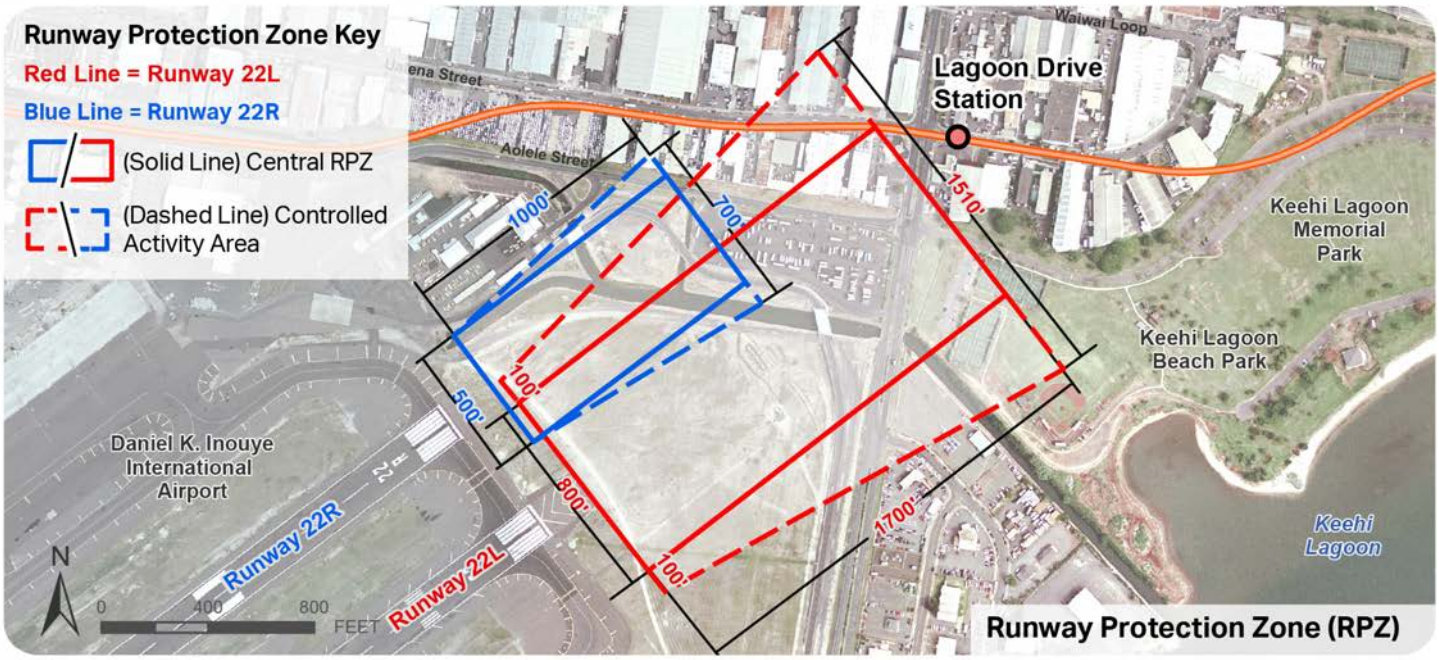
- Station Location
- Rail Guideway Alignment
- Primary Ridership Area

Allowable Height:

- 60'
- 160'

Zoning Designation:

- A-1 - Low Density Apt.
- A-2 - Medium Density Apt.
- A-3 - High Density Apt.
- B-1 - Neighborhood Business
- B-2 - Community Business
- F-1 - Federal and Military
- I-2 - Industrial and Intensive
- IMX-1 - Industrial Mixed Use
- P-1 - Restricted Preservation
- P-2 - General Preservation
- R-7.5 - Residential
- R-5 - Residential



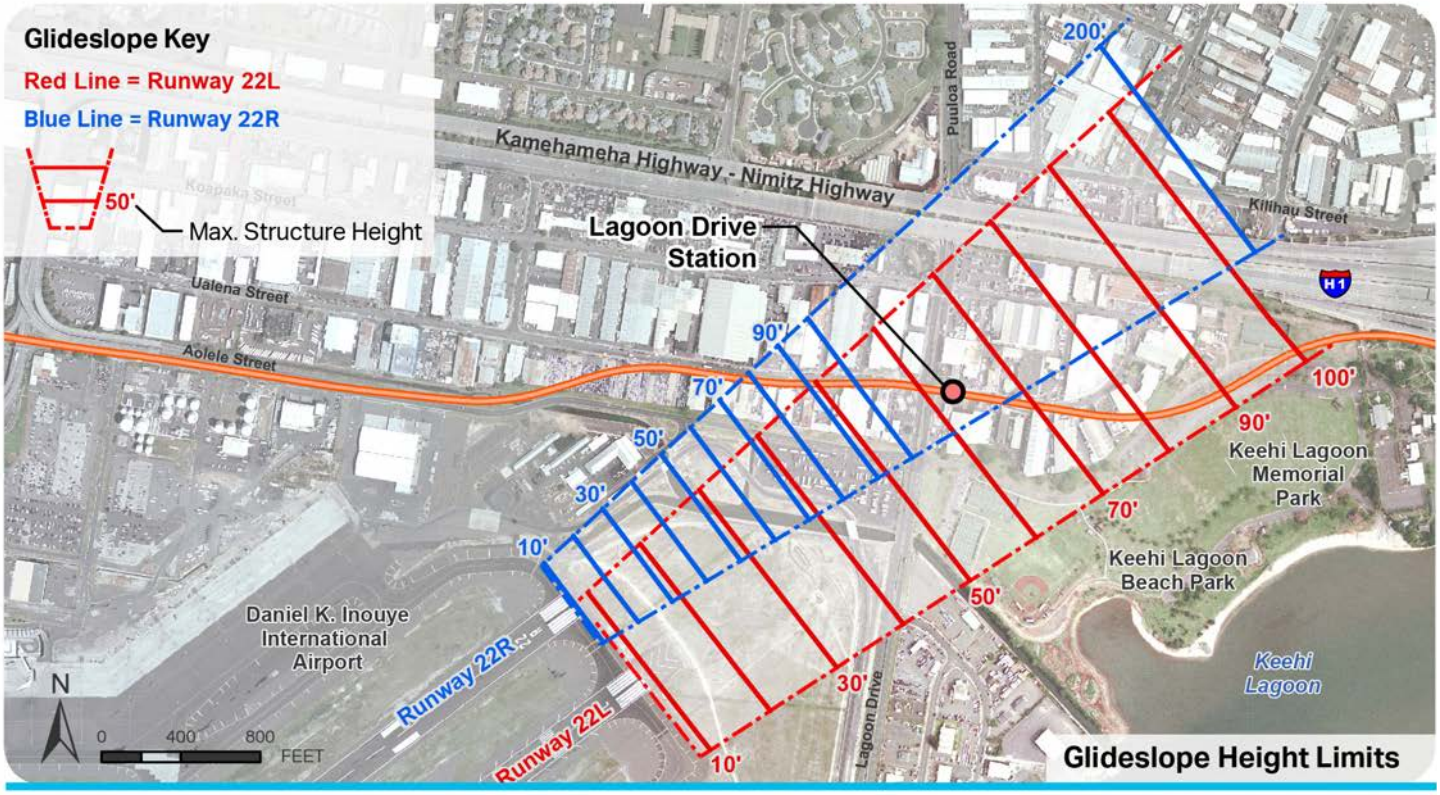


Figure 2-2: FAA Runway Protection Zone and Glideslope Height Limits, Lagoon Drive Station Area

Sources: HART, AECOM - 2016

Legend

- Station Location
- Rail Guideway Alignment

Development for guidance with development and activities that may require further review and permits.

TOD Ordinance

The City has adopted provisions in the LUO to allow for the establishment of TOD Special District regulations and design standards to foster and encourage TOD. The ordinance also calls for the preparation of neighborhood TOD plans to serve as the basis for the creation or amendment of a TOD zone and TOD regulations.

TOD plans, like this plan for the Airport area, must address the following:

1. Encompass overall economic revitalization, neighborhood character, and unique community historic and other design themes.
2. Recommend parcels (and key streets) to be included in the TOD Special District, accounting for natural topographic barriers, market interest in redevelopment, and the benefits of TOD, including the potential to increase transit ridership.
3. Recommend zoning controls, including architectural and community design principles, open space requirements, parking standards, and other modifications to existing zoning requirements; or establish new zoning precincts, as appropriate, including density incentives.
4. Preserve existing affordable housing and potential opportunities for new affordable housing, and as appropriate, with supportive services.
5. Foster convenient access to healthcare providers and services by providing the City's residences with a transportation alternative, particularly for those who frequently use healthcare services.
6. Avoid gentrification of the community.
7. Provide an implementation plan for recommendations, including the phasing, timing, and approximate cost of recommendations, as appropriate, and identify new financing opportunities that should be pursued.

Public Infrastructure Maps

The Public Infrastructure Map (PIM) for each of the eight Oahu DP/SCP regions shows proposed major public infrastructure projects for that region, including roadway, wastewater, and potable water facilities. The projects on the PIM represent both immediate priority projects and desired long-term investments. The PIM for the PUC shows the proposed HRTP corridor through the Airport area. Some projects recommended in the Plan may be appropriate to incorporate into the PIM.

TOD Honolulu Planning Principles

The City has established the following planning principles for TOD plans and projects:

- **Seamlessly integrate the rail, roadway, trail, and bus networks.**
- **Encourage land uses that increase transit ridership.**
- **Create a framework of affordable communities.**
- **Foster vibrant, mixed-use communities where the automobile is truly an option and not a necessity.**
- **Integrate new development into existing communities.**
- **Promote community sustainability.**

Airport Modernization and Master Plan

The Hawaii Department of Transportation (HDOT) Airports Division has planned, and is currently implementing, new facilities and improvements at the Daniel K. Inouye International Airport as part of a statewide airport modernization effort. The multi-year modernization program will transform the aging airport to accommodate the increasing volume of commercial and private air traffic, meet heightened security requirements, and improve the passenger experience. The modernization of the Airport will also affect some land use and traffic patterns in the Airport and Lagoon Drive Station areas which includes a new Consolidated Rental Car Facility.

As part of these efforts, the HDOT Airports Division also prepared a Master Plan in 2010 to outline the Airport's logical development scenario out to 2030, given the age of the facility and increased growth in and around the Airport. The Master Plan is intended to be updated with new development projects.

Oahu Bike Plan

The 2012 Oahu Bike Plan guides the City Department of Transportation Services' (DTS) bike facility planning for the entire island of Oahu. The Bike Plan includes provisions to integrate the proposed rail stations into the regional bikeway network. Goals of the Bike Plan include:

- Increase bicycle trips.
- Enhance compatibility between roadway users.

- Encourage and promote bicycling as a safe, convenient, and pleasurable means of travel.

An update of the Bike Plan was completed in December 2019 with similar goals.

Oahu Pedestrian Plan

The first Oahu Pedestrian Plan is currently in progress and will define pedestrian programs, safety improvements, and other steps needed to make Honolulu a more walkable, livable, and healthy place.

Bike Plan Hawaii Master Plan

Bike Plan Hawaii 2003 outlines how the State intends to accommodate and promote bicycling through existing and future facilities, policies, and programs to ensure a successful bicycle network.

Bike Plan Hawaii contains the following types of information:

- Objectives and implementing actions.
- Inventory of existing bicycle facilities.
- Maps of proposed bicycle facility improvements.
- Indications of preferred facility type for the various routes, such as signed shared roadways (on-street bicycle network), bike lanes (protected and buffered), and shared use paths (two-way shared by bicycles and pedestrians).
- Prioritization of projects.
- Strategies for implementation, including potential funding sources.
- Documentation of public involvement activities.
- References to additional resources.

Statewide Pedestrian Master Plan

The 2013 Statewide Pedestrian Master Plan provides a comprehensive approach focused on improving pedestrian safety and enhancing pedestrian mobility and accessibility to help create a multi-modal transportation system. The Plan also prioritizes pedestrian infrastructure improvements and programs, promotes the Complete Streets vision for the State, and fulfills federal requirements for multi-modal planning.

This plan identifies ways to improve pedestrian safety through:

- Engineering of infrastructure changes.
- Education of pedestrians and drivers.
- Encouragement of better pedestrian and driver awareness.
- Enforcement of existing pedestrian laws.
- Evaluation and planning of new projects and programs.
- Equity in serving the diverse needs of pedestrians.

City Walk Audits

The City conducted a Walk Audit in February 2014 of the three Airport area stations. The audit focused on improving station access to the rail stations by foot, bicycles, bus transit, and drop-off/pick-up. The audit results are considered in the recommendations of the Plan.

Honolulu Complete Streets Design Manual

The 2016 Honolulu Complete Streets Design Manual provides guidance on planning and designing City streets within the legal framework established in the 2009 State Complete Streets law and subsequent City ordinances. The Manual applies to all projects that impact the public right-of-way along City streets. The Manual covers the following:

- Background, legal framework, and policies.
- Street classifications.
- Street cross sections.
- Intersection design.
- Pedestrian crossings.
- People on bicycles in the road network.
- Universally accessible pedestrian environments.
- Transit in the street network.
- Natural design elements in the transportation system.

JBPHH Installation Development Plan and Area Development Plans

Completed in August 2013, the JBPHH Installation Development Plan (IDP) and Area Development Plans (ADP) are planning documents intended to guide and shape development across the entire 28,000-acre installation, to include all the outlying annexes that are part of JBPHH. The Plan's vision is to "create secure mission areas and walkable neighborhoods with interconnected streets and landscaped boulevards. These compact districts will have sustainable facilities and infrastructure, accessible open spaces, appropriate parking, and they will reflect our visible historic character."

The JBPHH IDP, which includes the Main Installation, is divided into 11 ADPs, three of which are located within the Airport Area. The Southside ADP is located south of Makalapa Gate on the makai side of Kamehameha Highway. The Northside ADP is located north of Makalapa Gate on the makai side of Kamehameha

Highway, and the Makalapa ADP is located mauka of Kamehameha Highway (excluding the Naval Facilities Engineering Command [NAVFAC] Hawaii installation).

The ADPs include User Location Plans that outline the location of potential future JBPHH uses. The plans show preferred locations where users can best collaborate and function; however, the sites may change based on future installation needs.

The Southside ADP does not show any projects within the TOD planning boundaries. The Northside ADP shows the following two projects within the TOD planning area:

- Pedestrian Turnstile Access to HART rail line.
- Public Light Rail Connection.

The Makalapa ADP has several planned projects adjacent to the rail station and within the TOD planning area, including:

- Fire-Fighting Training and Staging.
- Pass ID and Info Center.
- Fed Fire Ops Center.

Oahu Integrated Cultural Resources Management Plan, Pearl Harbor

Updated approximately every five years, the Navy's Integrated Cultural Resources Management Plans (ICRMPs) are important to:

- Effectively relate protection of cultural resources to the Navy's mission and organization of the installation in such a way as to maximize compatibility and minimize conflict between mission and protection.
- Ensure that cultural resources are treated in accordance with federal law and policy, while allowing the installation mission to be carried out effectively and efficiently.
- Develop a practical, useable product/tool to manage cultural resources in a way that ensures integration of cultural resources into regional planning and decision making.

The Pearl Harbor section of the Navy's Oahu ICRMP thoroughly describes, categorizes, and proposes implementation measures for all the installation's cultural and historic features. The Little Makalapa Housing Area and NAVFAC Hawaii compound are addressed in the ICRMP. Both areas are outside and mauka of the Pearl Harbor National Historic Landmark. Nevertheless, both areas have historic facilities, designated as categories III and IV (out of a five-category system – I being the highest value and IV being the lowest value category, with a fifth category addressing cold war resources). All the Little Makalapa housing units are rated as category III. Some of the NAVFAC Hawaii compound facilities are rated category III but most are category IV.

Category III resources have aspects of the built environment that possess sufficient historic significance to merit consideration in planning and decision making, but are not assignable to Category II. Category III resources have one or more of the following characteristics:

a. Have relatively minor importance for defining the historic character of the installation. These resources generally are support structures whose function, design, location or other characteristics do not merit designating them as of "central" importance to the installation. The properties in this category have enhanced significance or importance if they support a defined historic theme, district or zone;

b. May have potential for continuing or adaptive reuse; and

c. May also have more integrity loss that precludes them from qualifying as Category I or II properties.

Category IV applies to aspects of the built environment that are not eligible for listing on the National Register of Historic Places. Category IV properties do not possess sufficient significance or are lacking in importance to warrant being listed on the National Register of Historic Places.

The Little Makalapa housing units have been combined into a district and are listed in the National Register of Historic Places as the Little Makalapa Housing District. The listing determination may constrain future reuse of this site.

Mayor's Directive No. 18-2 on Climate Change and Sea Level Rise

In July 2018, the Mayor issued a formal directive to all City departments and agencies to take action in order to address, minimize the risks from, and adapt to the impacts of climate change and sea level rise. The directive was issued in response to the Sea Level Rise Guidance and Climate Change Brief presented to the Mayor and members of the City Council by leadership of the City's Climate Change Commission.

The Mayor's directive requires all City departments and agencies under the Mayor's jurisdiction to take several actions, including:

- View climate change and the need for both climate change mitigation and adaptation as an urgent matter, and take a proactive approach in both reducing greenhouse gas emissions and protect and prepare the city for the physical and economic impacts of climate change.

- Use the Sea Level Rise Guidance and Hawaii Sea Level Rise Vulnerability and Adaptation Report in their planning, programming, and capital improvement decisions to mitigate impacts to infrastructure and critical facilities subject to sea level rise, which may include elevation or relocation of infrastructure and critical facilities, the elevating of surfaces, structures, and utilities, and/or other adaptation measures.
- Propose revisions to shoreline rules and regulations to incorporate sea level rise and conserve a natural, unarmored shoreline wherever possible.
- Work cooperatively to develop and implement land use policies, hazard mitigation actions, and design and construction standards that mitigate and adapt to the impacts of climate change and sea level rise.

In addition, the directive strongly encourages independent agencies, city-affiliated entities, and city-related institutions to help advance these efforts and adopt similar initiatives.

In its Sea Level Rise Guidance, the Climate Change Commission emphasized that the City should be planning for high tide flooding associated with 3.2 feet of sea level rise by mid-century, and because of continued high global carbon emissions, take into consideration 6 feet of sea level rise in later decades of the century, especially for critical infrastructure with long expected lifespans and low-risk tolerance. The sea level rise guidelines recommended by the Commission are consistent with findings by the Intergovernmental Panel on Climate Change and the National Oceanic and Atmospheric Administration (NOAA).

Specific to the City, the Commission included in its detailed Sea Level Rise Guidance that rising seas will threaten Oahu communities and natural ecosystems in multiple ways, including: increased vulnerability to flooding; land loss and coastal erosion; saltwater intrusion into streams and coastal wetlands; and increased damage when hurricanes, tsunamis, and seasonal high waves strike. The commission further concluded that rising seas will negatively impact local communities, habitats, property, infrastructure, economies, and industry.

The Commission, which carefully tracked a combination of international research and local modeling to underpin its decisions, also stressed that impacts from high tide flooding will arrive decades ahead of permanent inundation. Tidal flooding is projected to become more frequent and erode beaches, flood roads, and in times of rainfall bring local transportation to a standstill. According to modeling by NOAA, under their "Intermediate Scenario," flooding exceeding 2017's "King Tide" level could be present an average of twice per month in Honolulu before mid-century.

According to the Pacific Islands Ocean Observing System's Hawaii Sea Level Rise Viewer (the dataset associated with the Hawaii Sea Level Rise Vulnerability and Adaptation Report), Keehi Lagoon Beach Park, Keehi Lagoon Memorial Park, and much of the lower Mapunapuna industrial area mauka of the H-1 Freeway will be affected by sea level rise. However, the station itself and surrounding airport industrial area are not projected to be directly impacted by sea level rise exposure (see Figure 2-8).

A key challenge with addressing sea level rise is that it is dynamic in nature. Nevertheless, aside from the City's efforts, the State is also actively working on the issue. Further guidance on planning for sea level rise impacted areas, including policies and regulations, is anticipated over the coming years.

2.2 Station Area Conditions

This section provides an overview of existing conditions around the three Airport area stations.

Pearl Harbor Station Area

Existing Land Use and Community Character

The Pearl Harbor Station is located on Kamehameha Highway across from the JBPHH Makalapa Gate, a major entry point into the military installation. Access to the Pearl Harbor Station will be located on the mauka side of Kamehameha Highway on an existing open space area that fronts Radford Drive. Figure 2-3 shows the existing land use pattern around the station. The H-1 Freeway acts as a major barrier to land uses mauka of the station.

The majority of the land within ½-mile of the station is within secured areas of JBPHH. Access to and use of restricted areas on both sides of Kamehameha Highway is limited to Department of Defense (DOD) personnel and their dependents.

Areas closest to the station include military-owned land used for commercial, light industrial, and family housing with community support facilities (such as schools and churches). Heavy industrial uses associated with the Pearl Harbor waterfront are within a ½-mile radius of the future station and inside the secured area of the installation.

Retail/commercial establishments in the area are located mauka of the station and the H-1 Freeway in the vicinity of Radford Drive. Major retail businesses include The Mall at Pearl Harbor, Target, Flooring Superstore, and other establishments. Institutions include three elementary schools and a federal fire department building located at the corner of Kamehameha Highway and Center Drive.

The Makalapa Navy housing area, located mauka of Kamehameha Highway and north of Radford Drive, is a single-family neighborhood with amenities including a community pool and parks. It is listed as a historic

district in the National Register of Historic Places (NRHP). Another military family housing area is located makai of Kamehameha Highway and south of Center Drive. This community is more densely developed than Makalapa.

There are four potential off-installation TOD sites near the Pearl Harbor Station. Their proximity, and the lack of other suitable properties nearby, present a unique opportunity for redevelopment.

The site adjacent to the Pearl Harbor Station is shown on the land use map as open space. The site has several large trees and is lined with mature street trees along Radford Drive. Radford Drive, Kamehameha Highway, and the former military housing area (located at a higher elevation) known as Little Makalapa border the station site. The existing houses at Little Makalapa are in poor structural condition and no longer occupied. However, it is a NRHP-listed historic district. There is a significant amount of open space surrounding the Little Makalapa area and future rail station.

Several properties near the Pearl Harbor Station are recognized as historically important. Table 2-1 summarizes the historic properties within a ½-mile radius of the station.

Land Ownership

The federal government (JBPHH) almost exclusively owns the lands around Pearl Harbor Station (Figure 2-4). Some federally owned land is outside the secured boundary of JBPHH. These areas include The Mall at Pearl Harbor, located mauka of the station along Radford Drive, adjacent military housing, and an elementary school. The City has no regulatory control over these federal lands. Located partially within the ½-mile TOD Zone is the fenced/gated compound belonging to NAVFAC Hawaii.

Table 2-1: Historic Sites in Pearl Harbor Station Area

Historic Site	NRHP* Listed	NRHP Eligible
Makalapa Navy Housing Historical District	Yes	
Little Makalapa Navy Housing Historical District	Yes	
United States Navy Base, Pearl Harbor National Historical Landmark	Yes	
Ossipoff's Aloha Chapel, SMART Clinic, and Navy-Marine Corps Relief Society – Facility 1514 (built 1975)		Yes
Navy Upper Tank Farm (fuel storage)		Yes
Navy WWII Splinterproof Shelter – Facility S-51		Yes
Navy Rehab Center/Former Fire Station – Facility 199		Yes
Commander-in-Chief Pacific Fleet Headquarters – Facility 250, National Historical Landmark (built in 1942)	Yes	

Source: (HDOT 2009, NPS 2018)
Note: *NRHP - National Register of Historic Places: the U.S. Federal Government's official list of the country's cultural resources, including districts, sites, buildings, structures.

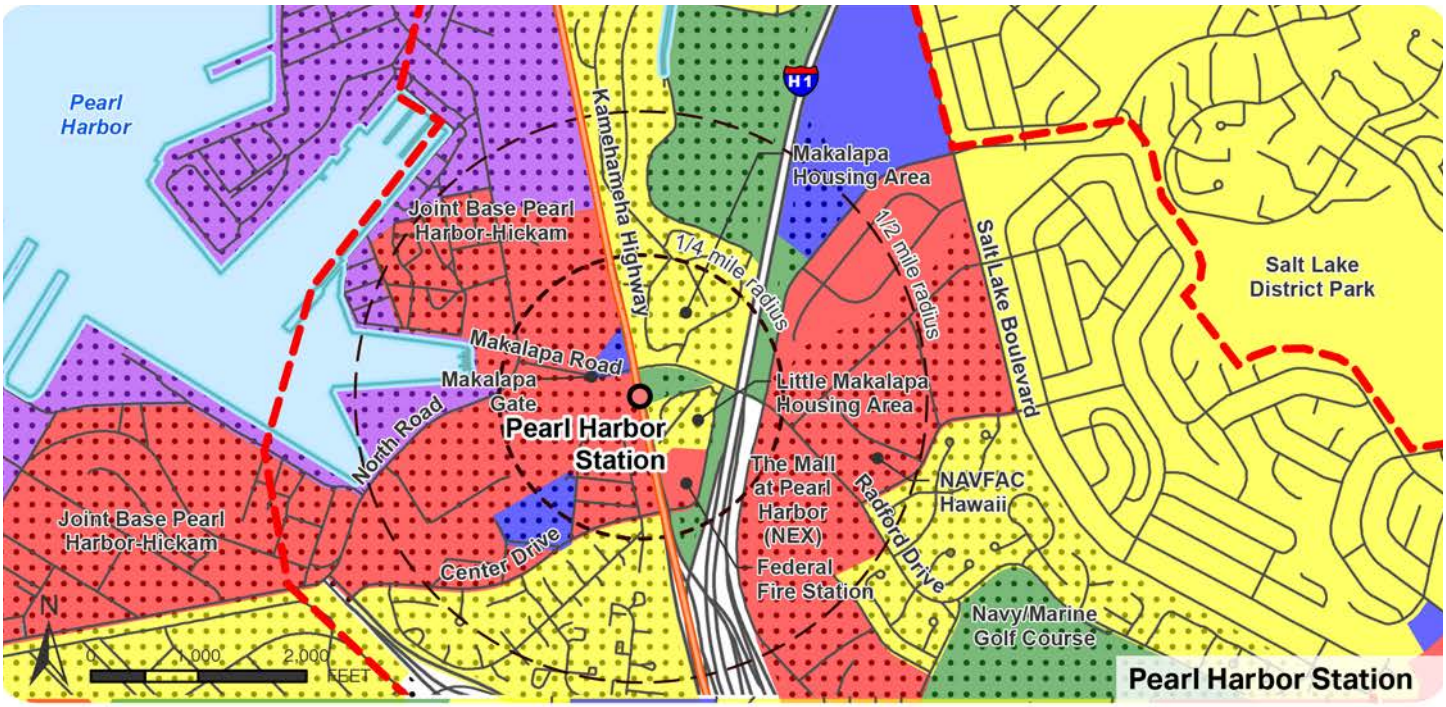
Private institutional landowners, including Kamehameha Schools and the Queen Emma Foundation, have small land holdings within the ½-mile TOD Zone. This includes the Salt Lake light industrial area, owned by the Queen Emma Foundation, mauka of the station site.

Located mauka of the ½-mile TOD Zone (within the Region of Influence and near The Mall at Pearl Harbor) is the Moanalua commercial district also on DOD-owned land.

Density and Intensity

Density and intensity refer to the amount of development within a given area, and can be measured by building height and mass.

Buildings near the Pearl Harbor Station are primarily located on JBPHH land, most of which range from one to five stories high. Buildings within ½-mile of the station include single-family residences, administration buildings, community support and commercial buildings, and industrial warehouses. Although these buildings range from 20 to 160 feet tall, the vast majority are on the lower end.



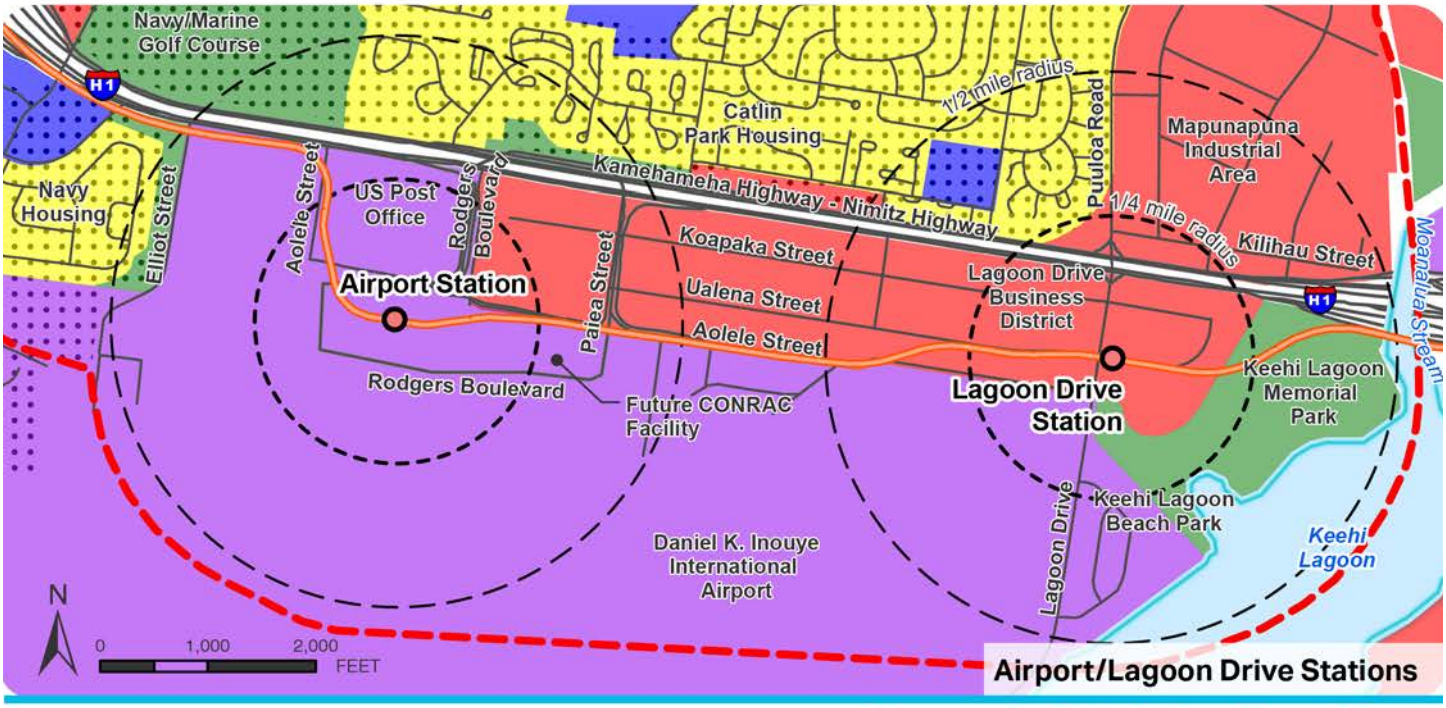


Figure 2-3: Existing Land Use

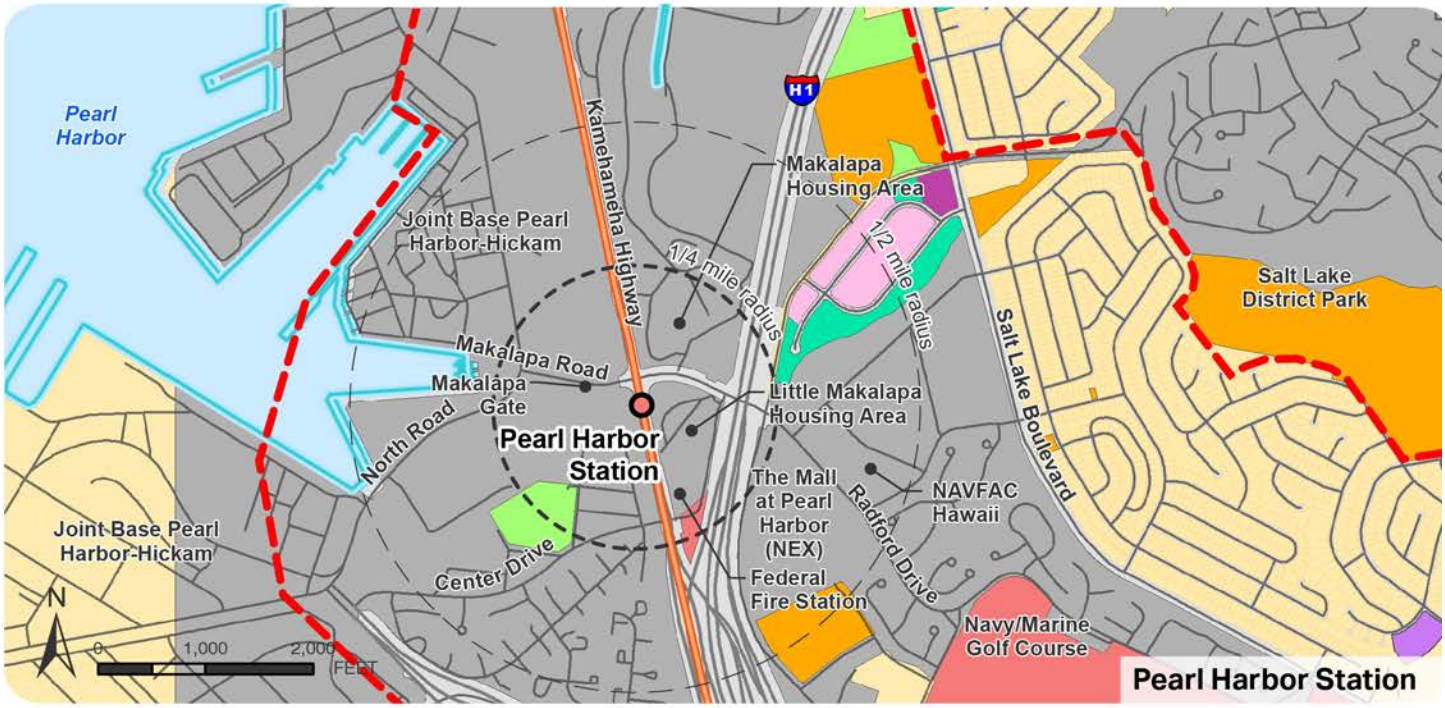
Sources: State of Hawaii, City & County of Honolulu DPP, HART, AECOM - 2016

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area
- Joint Base Pearl Harbor-Hickam

Existing Land Uses:

- Residential
- Commercial (Retail/Office/Minor Industrial)
- Community Facilities (Schools/Churches)
- Industrial
- Parks & Open Space



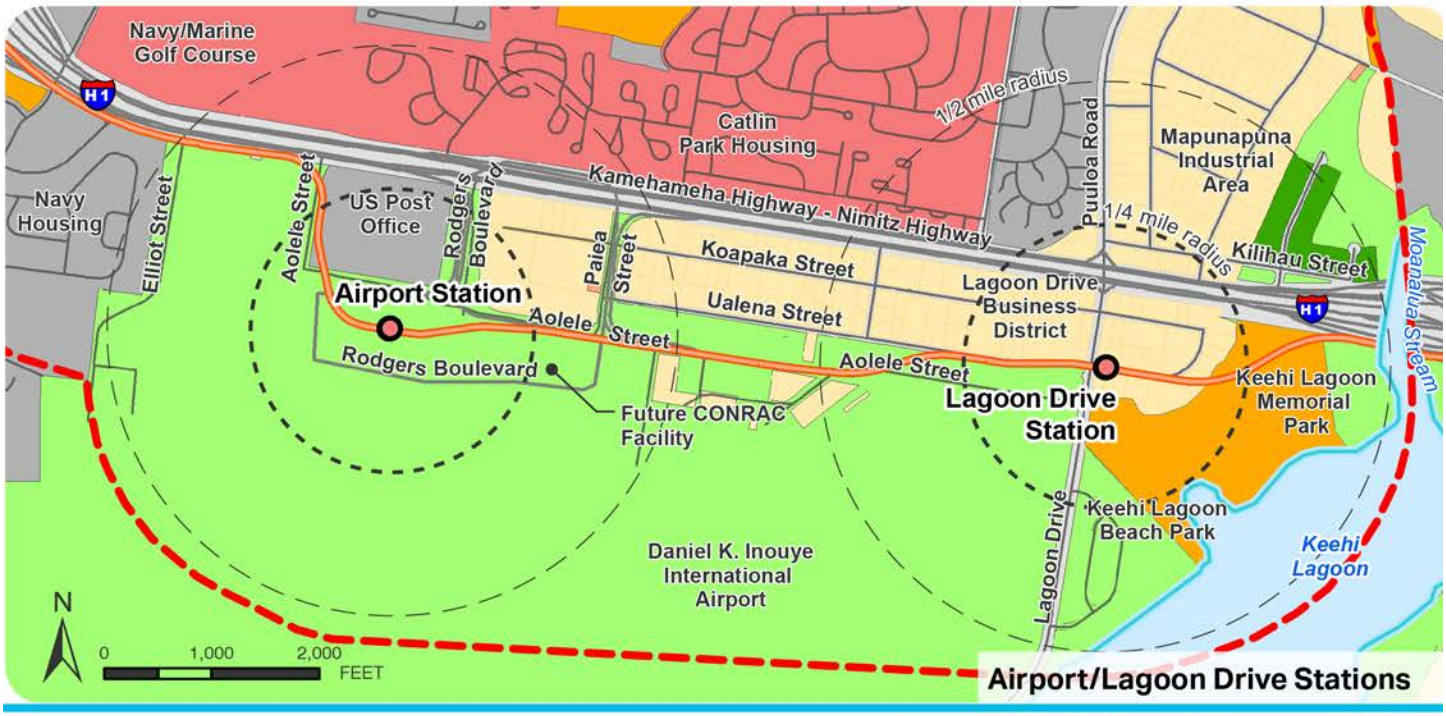


Figure 2-4: Land Ownership

Sources: City & County of Honolulu HART, AECOM - 2016

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area

Land Ownership:

- C&C of Honolulu
- USA (Federal)
- Hawaiian Electric Company
- State of Hawaii
- State DHHL
- Kamehameha Schools
- Roman Catholic Church
- The Queen Emma Foundation
- Dept. of Defense Public-Private Venture
- Various Owners - Private Parcels

The areas owned by JBPHH include some pockets of buildable land. However, use of these areas is entirely under the control of the federal government. Outside of JBPHH, the Salt Lake light industrial area, which contains the Target store, is fully tenanted.

Circulation

Oahu Transit Services, Inc. (OTS), which operates TheBus and TheHandi-Van paratransit services, provides public transportation within the Airport area and throughout Oahu. OTS operates these services under contract with the City. Several routes of TheBus operate within the study corridor seven days a week, including holidays.

Figure 2-5 shows the bus routes operating in the vicinity of the three stations. Multiple bus routes (primarily routes 9, 11, 20, 40, 42, and 62) provide service within ½-mile of the Pearl Harbor Station. Depending on the time of day, frequency of service for these routes ranges between 20 and 60 minutes. Bus routes stop primarily along Kamehameha Highway, Center Drive, North Road, Radford Drive, and Bougainville Drive. The closest bus stop to the future rail station is less than 500 feet away, at the northeast corner of Kamehameha Highway and Radford Drive. During morning and afternoon commute times, Route 9 also has select bus trips to provide service within JBPHH (primarily to places of employment).

Bus services are currently being reviewed by the City to determine how to make transfers between buses and rail seamless and to better connect the surrounding neighborhoods to rail.

The extent and quality of existing pedestrian and bicycle infrastructure vary by location throughout the study corridor. However, these facilities are generally inadequate or undersized to support the multi-modal traffic associated with a rail transit station.

Figure 2-6 shows the inventory of pedestrian facilities and sidewalks adjacent to the Pearl Harbor Station area. The figure highlights the "pedestrian focus areas," which are anticipated to be most frequented by pedestrians once rail is operational. One important segment of missing sidewalk is located close to the Pearl Harbor Station along the mauka side of Kamehameha Highway between Radford Drive and Center Drive. A paved pathway, separated from vehicle lanes by a guardrail or curb that serves both pedestrians and bicycles, is located along Bougainville Drive fronting The Mall at Pearl Harbor and then transitions to a 3- to 4-foot sidewalk along the south side of Radford Drive.

As shown in Figure 2-7, bike infrastructure in the Pearl Harbor Station area is limited to a single bike lane along Kamehameha Highway that ends just south of the Radford Drive intersection; and a paved shared-use path along Bougainville Drive, south of Radford Drive.

Infrastructure

Both public and private utilities, and associated infrastructure, exist within or adjacent to the planning area corridor. Typically, overhead utility lines and buried conduits and pipelines follow the existing roadways and are within the public right-of-way. Water and sewer infrastructure are well developed, and stormwater drainage systems include facilities owned by the Navy and the HDOT.

The Navy provides water and sewer service on the JBPHH properties. The existing JBPHH sewer system is at capacity and cannot handle additional flows at this time; however, an upgrade to the system is planned. The Pearl Harbor Station restroom will be connected to a septic system until the system can handle additional flows.

Opportunities and Constraints

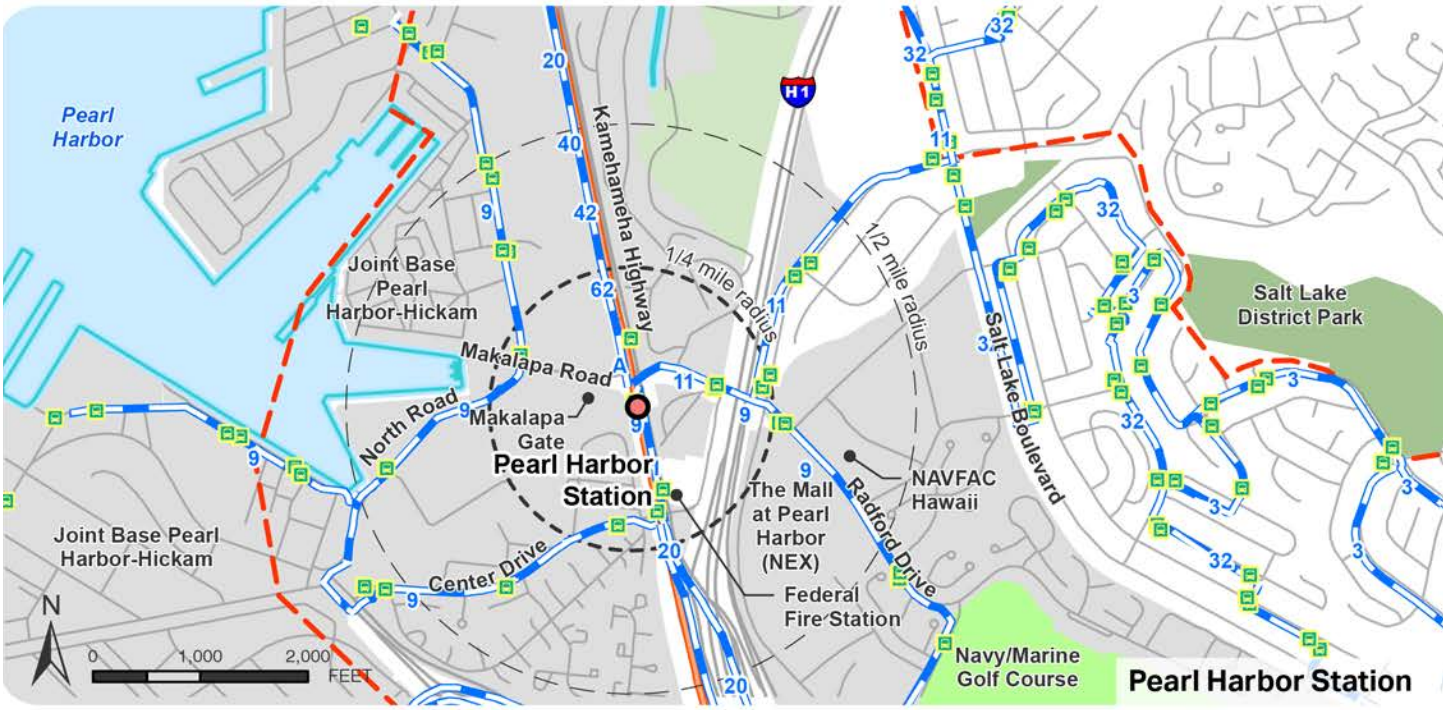
The Pearl Harbor Station is surrounded by lands controlled by JBPHH. With the exception of the publicly accessible roads, the federal fire station, and the rail station site itself, most surrounding land is fenced and access is restricted to military personnel and dependents. For this reason, there is limited opportunity for private sector development, although the Navy could partner with a private developer to take advantage of its land near the station and JBPHH.

A current constraint in the immediate station area is the poor quality of pedestrian amenities. Intersections along Kamehameha Highway have narrow or non-existent crosswalks and undersized pedestrian islands. Traffic signal timing will need to be modified to accommodate the number of pedestrians that will use the station to shorten wait times.

The area is served by a variety of public bus routes, and bus stops are conveniently located. Although the number and location of bus stops are generally adequate for the Pearl Harbor Station area, more bus shelters, seating, and trash receptacles would better accommodate users and would be needed to accommodate future growth. For instance, the City's 2014 Walk Audit reported that existing bus stops are too far away from the station and bus pullouts are needed.

The Walk Audit also suggested the need for an off-street pick-up/drop-off area for TheHandi-Van and "kiss-and-ride" passengers within the rail station site. Many transit riders will likely be dropped off at and picked up from the Pearl Harbor Station, but the current station design does not include a designated vehicle drop-off and pick-up area. This could result in traffic congestion and potential safety issues on Kamehameha Highway and Radford Drive.

The station site has a park-like atmosphere with an open, grassy area and large-canopy shade trees. The area is



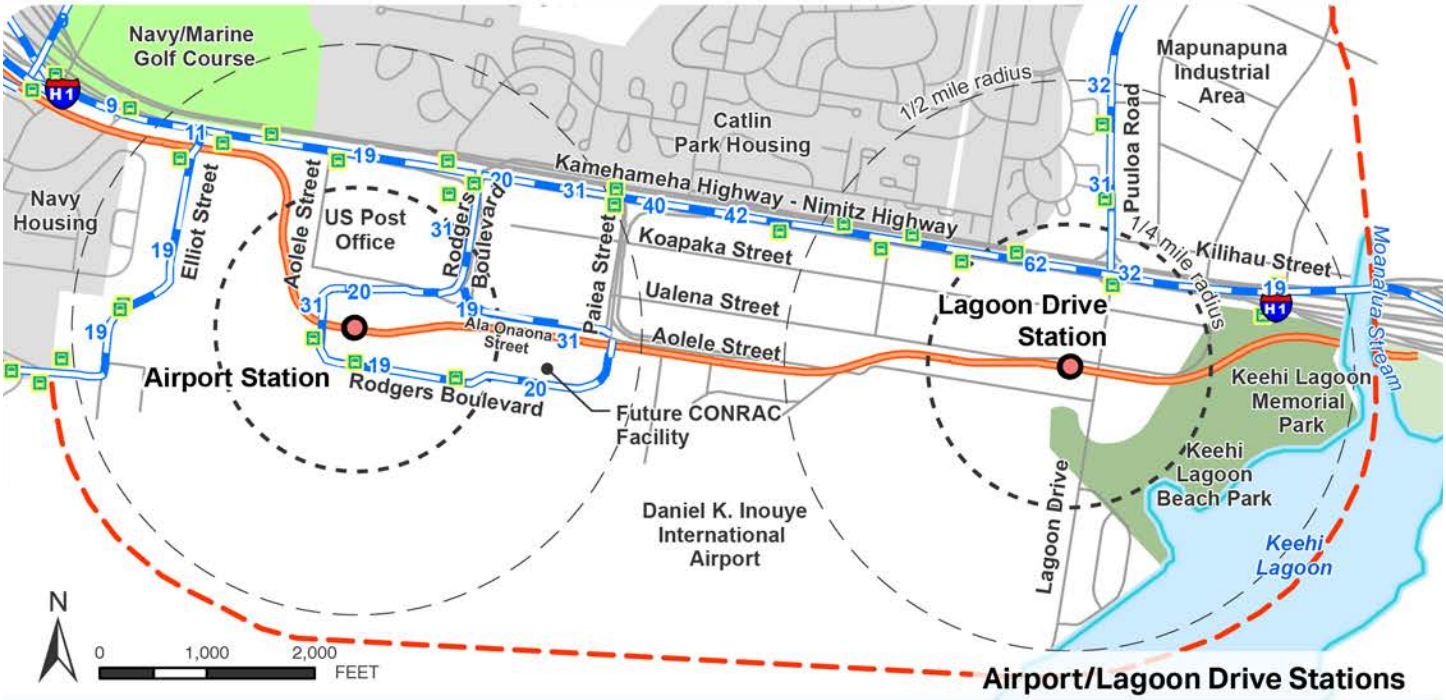


Figure 2-5: Transit Stops and Locations

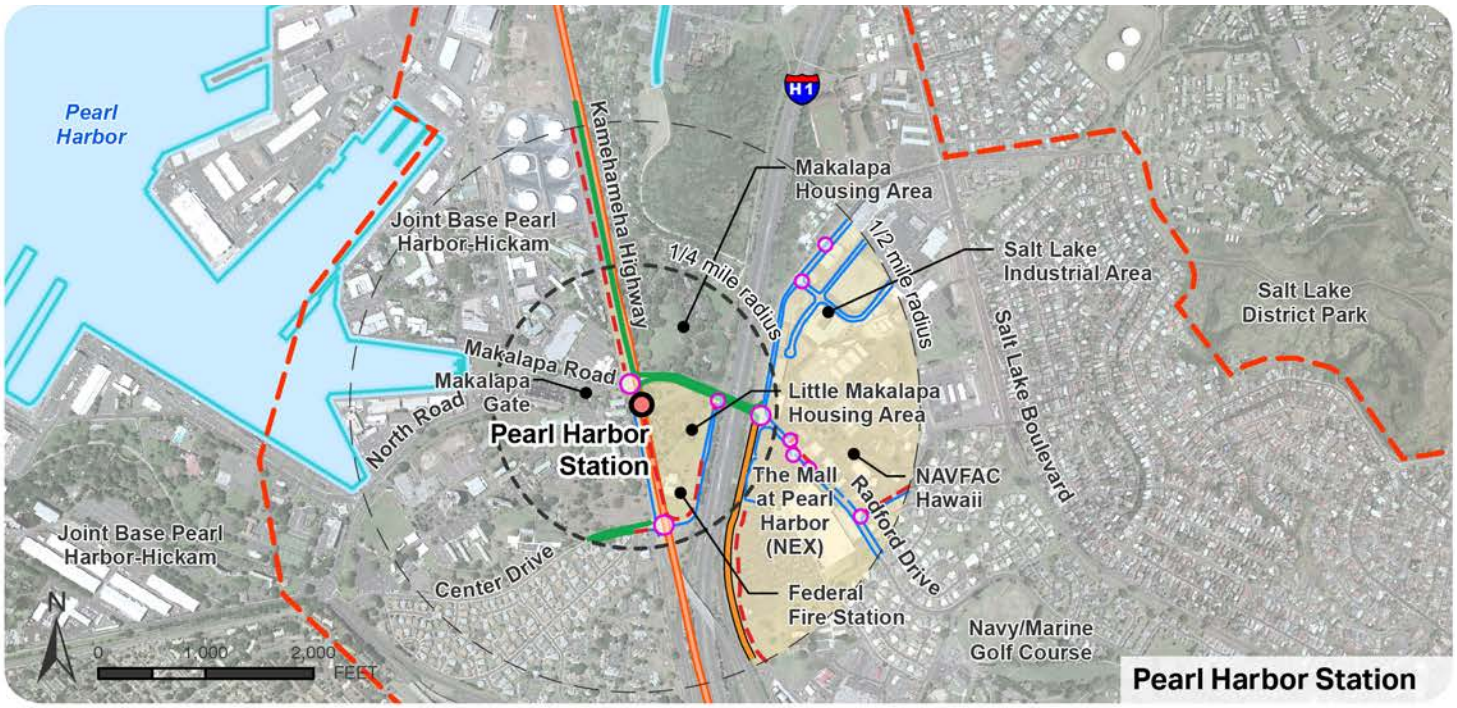
Sources: City & County of Honolulu HART, AECOM - 2016

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area
- Joint Base Pearl Harbor-Hickam
- Bus Stop
- Bus Routes

Other:

- Golf Course
- Open Space
- Park



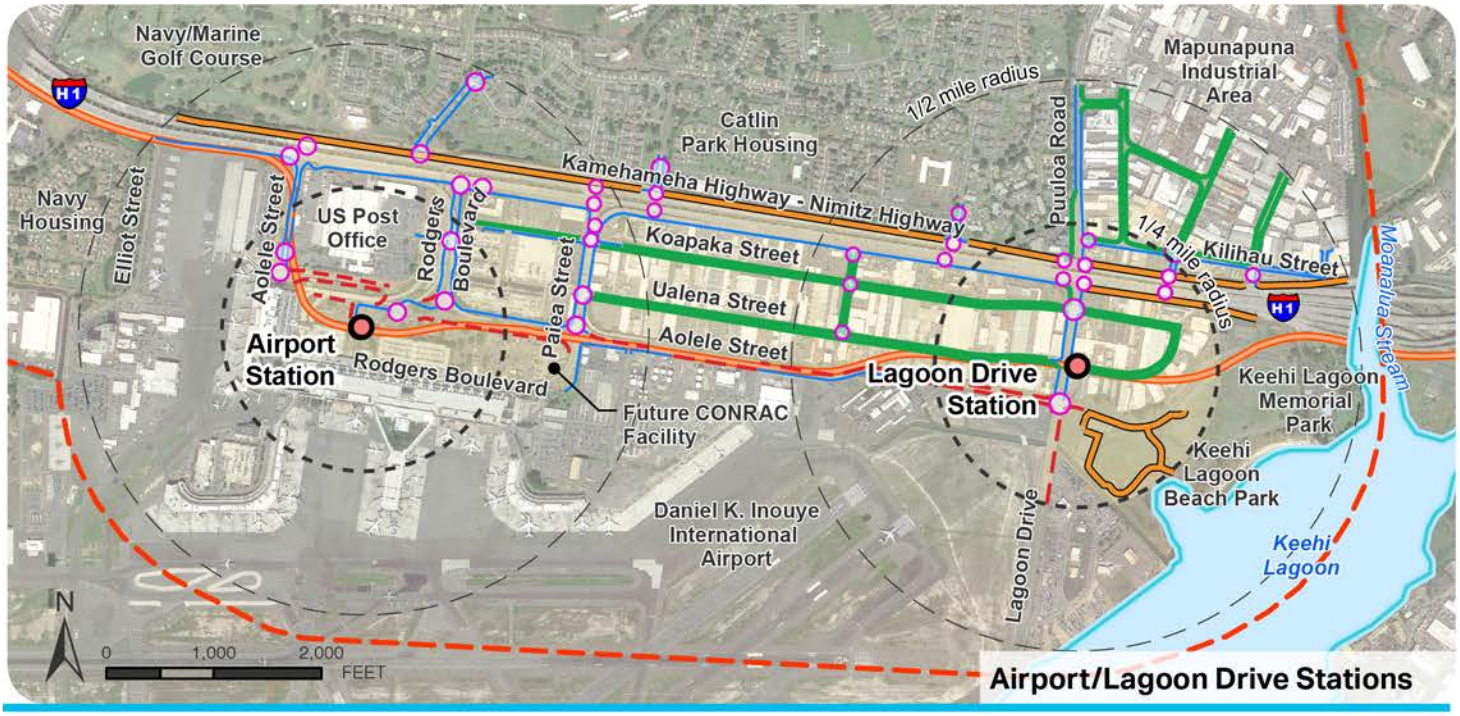


Figure 2-6: Sidewalk Inventory

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area
- Pedestrian Focus Area

Existing Sidewalk/Pedestrian Facilities:

- Missing Sidewalk
- Paved Pedestrian Pathway
- 3'-4' Sidewalk
- 5'-8' Sidewalk
- Crosswalk

Sources: HART, AECOM - 2016, Google Earth

Note: Some sidewalk and crosswalk information within military areas are not shown due to limited data access.

similar in character to the adjacent Makalapa and Little Makalapa Navy housing areas, which are controlled by JBPHH. There is an opportunity to develop an informal park adjacent to the station between Radford Drive and the Little Makalapa housing area that would provide an open space amenity to transit users and residents.

The five-acre Little Makalapa site is a former Navy housing area that is now unoccupied and deteriorated. This area is situated about 15 to 20 feet above the station elevation and contains 15 buildings with 30 housing units. The housing unit condition and design are unsuitable for current military personnel and their families. Both the Little Makalapa site and the two-acre area between the site and the federal fire station have significant redevelopment potential. However, Little Makalapa has recently been listed as a historic district on the NRHP, potentially constraining redevelopment of the housing. Use of the site may also be constrained by environmental cleanup requirements.

Stakeholders reported that food establishments in the station area are limited and that the JBPHH employees often require more than the allotted lunch break to drive to a lunch site, wait in line, eat, and return to work. A small restaurant and/or cafe with convenience retail amenities (coffee, snacks, etc.) and outside seating adjacent to the station would serve both transit riders and JBPHH employees.

The Mall at Pearl Harbor, a large military exchange and commissary, is located along Bougainville Drive and Radford Drive. The mall is adjacent to a very large at-grade parking lot that abuts these two roads. Market analysis has shown that there is potential to modify the parking lot to accommodate other appropriate uses, such as additional retail and commercial development.

The NAVFAC Hawaii site, located between Radford Drive and Salt Lake Boulevard, is mostly within ½-mile of the Pearl Harbor Station. This is a large sprawling area that is currently underutilized. The Navy is considering moving their NAVFAC Hawaii operations to a different location, perhaps within the main JBPHH installation. If that were to occur, it would open up a large redevelopment opportunity on the vacated property. The City's PUC DP recommended redevelopment of this area for housing to link the adjacent Moanalua Terrace and Aliamanu residential neighborhoods. It should be noted that use as a military public works area has likely resulted in contaminated soils that would need to be remediated prior to redevelopment.

JBPHH has plans to develop an on-base transit system. Integrated connections between City and JBPHH transit service should be coordinated with rail and bikeshare modes to connect riders to neighborhoods. There are potential TOD opportunities within the vicinity of the two on-base transit stops.

A constraint for JBPHH riders connecting to/from rail is that pedestrian access is only provided on the mauka side of Kamehameha Highway—at Radford Drive. The Navy and HART should coordinate to monitor the number of passengers using the station from base to determine whether a direct connection is warranted.

In summary, there are four potential off-installation TOD opportunity sites in close proximity to the Pearl Harbor Station, including: (1) the area abutting the station site; (2) Little Makalapa Navy housing area; (3) the surface parking lot adjacent to The Mall at Pearl Harbor; and (4) the NAVFAC Hawaii site. The proximity of these sites to the Pearl Harbor Station and the lack of other nearby suitable properties present a unique opportunity for redevelopment.

Airport Station Area

Existing Land Use and Community Character

The Airport Station is located within the jurisdiction of Daniel K. Inouye International Airport, the primary gateway for visitors to Hawaii and for neighbor island commuters to the island of Oahu. The Airport is also a major statewide employer.

The station area is currently paved and includes U.S. Department of Agriculture (USDA) offices, a small dog park for security dogs, and an open landscaped area between the domestic and international parking structures. Land uses immediately around the station are industrial and support airport operations (Figure 2-3). The station area is surrounded by two multi-story parking structures, ground-floor lei stands, and a consolidated car rental (CONRAC) facility. On the mauka side of the station, across Rodgers Boulevard, Oahu's main U.S. Postal Service (USPS) facility occupies a large area.

The larger station area is dominated by airport-related operations, other mixed industrial, commercial, and retail operations, and two hotels.

Potential TOD opportunities in the Airport Station area include infill redevelopment of the commercial/industrial area along and between Rodgers Boulevard and Paiea Street.

Much of the land makai of Aolele Street is restricted airport property controlled by the State. Land uses immediately around the Airport Station area are associated with airport functions, including maintenance, cargo, parking, and airport commercial activity. Within ½-mile of the station there are only a few general commercial establishments such as food

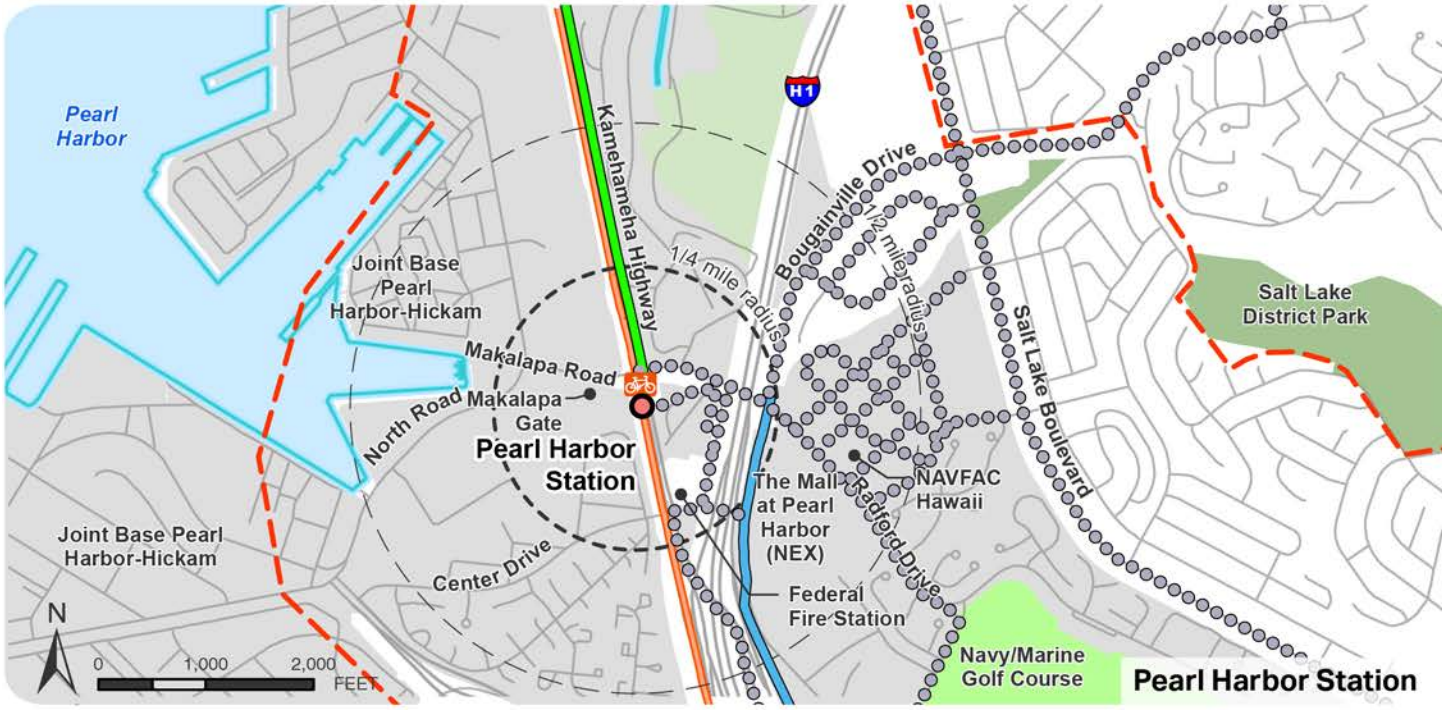


Figure 2-7: Existing and Proposed Oahu Bike Plan Bike Facilities

Legend

Sources: City & County of Honolulu, Oahu Bike Map, HART, AECOM - 2016

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area
- Joint Base Pearl Harbor-Hickam
- Proposed Public Bike Rack Location

Existing and Proposed Bicycle Facilities:

- Existing Bike Path
- Existing Bike Lane
- Missing Bike Network

Other:

- Golf Course
- Open Space
- Park

outlets and airport hotels. New restaurants/coffee shops were the most desired type of new business sought by employers and employees surveyed in the area.

On the mauka side of Nimitz Highway, the community character of the Airport TOD area is less focused on airport-related functions. Much of this area is made up of the military's Catlin Park housing area and the Navy/Marine Golf Course.

There are no listed cultural or historic sites within the Airport TOD area.

Land Ownership

HDOT, which controls the Daniel K. Inouye International Airport, is the major landowner in the area (Figure 2-4). The federal government (General Services Administration [GSA]) owns the Post Office property located directly mauka of the main airport terminal. Catlin Park is a military housing area is owned by the federal government (DOD) and operated by Forest City, a private entity. Private landowners own most of the commercial and industrial lands east of Rodgers Boulevard.

Density and Intensity

Buildings within the Airport Station area are a mix of single-story and multi-story structures. Airport buildings are of medium height, reaching five to six stories. These buildings are used for airport operations (e.g., passenger terminals, parking garages, corporate offices). Outside of the multi-story airport terminal buildings and parking structures, the expansive two-story U.S. Post Office building and surface loading/unloading and parking areas occupy the entire block surrounded by Nimitz Highway, Rodgers Boulevard, and Aolele Street. A combination of multi-story mixed-use commercial/industrial buildings (Airport Industrial Park) and associated surface parking compose most of the block bounded by Koapaka Street, Aolele Street, Rodgers Boulevard, and Paiea Street. One- to two-story mixed-use commercial/industrial buildings line Paiea Street. Two hotels (four and 10 stories) are located along Nimitz Highway within ½-mile of the station.

Circulation

Figure 2-5 shows the bus routes operating in the vicinity of the Airport Station. Multiple bus routes (primarily routes 19, 20, 31, 40, 42, and 62) provide service within ½-mile of the Airport Station. Buses stop along Nimitz Highway, Elliott Street, and Rodgers Boulevard. Certain routes provide direct service to the airport terminals, while they all generally serve surrounding local businesses and residential areas near Nimitz Highway.

Figure 2-6 shows pedestrian facilities in the Airport Station area. The City's 2014 Walk Audit found that the sidewalk network around the Airport Station area is mostly disjointed and difficult to navigate with little to no wayfinding signage. Most Airport Station sidewalks are narrow, which do not adequately accommodate pedestrians with luggage. A paved shared-use (pedestrian/bicycle) pathway is located on the mauka side of Nimitz Highway, and a four-foot-wide sidewalk runs along the makai side.

As shown in Figure 2-7, designated bike paths within the Airport Station area are limited to the shared-use path along Nimitz Highway. For the Airport Station area, the Oahu Bike Plan proposes bike lanes along the makai side of Nimitz Highway and along Aolele Street from Paiea Street to Lagoon Drive. The Oahu Bike Plan also proposes a bike route (shared roadway) for Paiea Street and Rodgers Boulevard (to airport terminals). The Airport Station will include a bike storage facility.

The road system in the Airport Area is often congested and not conducive to safe and orderly traffic flow. For example, Koapaka Street currently dead-ends into Rodgers Boulevard, creating vehicular circulation issues (one way in/out). Additionally, the Paiea/Koapaka intersection is non-signalized but has heavy traffic and vehicular and pedestrian conflicts throughout the day.

Infrastructure

Both public and private utilities, and associated infrastructure, exist within or adjacent to the planning area. Typically, overhead utility lines and buried conduits and pipelines follow existing roadways within the public right-of-way. Water infrastructure is well developed in the planning area. Stormwater drainage systems exist throughout the planning area and include facilities owned by the City and the HDOT.

The City sewer system in the Airport Station area is sized for light industrial and/or commercial uses. Increased development may require additional wastewater capacity.

Opportunities and Constraints

As shown in Figure 2-4, the land within ¼-mile of the future Airport Station is dedicated primarily to airport-related uses on State, federal (post office), and a large parcel of private land (Airport Industrial Park). This leaves minimal space for private sector TOD except in partnership with the State or federal government.

Pedestrian amenities surrounding the Airport are currently inadequate, and will be even more so once the rail station is operational. Existing sidewalks are either not connected to adjacent areas outside of the Airport, or are meandering and indirect. In some areas, sidewalks and walkways are non-existent. Pedestrian lighting is also lacking throughout. For example, while there is a pedestrian connection between the Airport Industrial Park and the Airport, it is not lit well at night, causing security and safety concerns. And though there are military family housing areas west of the Airport near Elliot Street and on the mauka side of Nimitz Highway,

there is no pedestrian access across these roads to the future station.

Bicycle access and facilities are also inadequate in the Airport Station area. A bike path is present along the mauka side of Nimitz Highway, but there is no connection to the Airport Station site. In fact, no bike paths exist within ¼-mile of the Airport Station.

The station area is well served by bus service, and there is pedestrian access between bus stops on Rodgers Boulevard and the airport terminals. Numerous other bus stops and routes are located along Nimitz Highway, Elliott Street, and Puuloa Road. There are plans to widen Ala Onaona Street, which runs along the mauka side of the lei stands, to accommodate buses and TheHandi-Van in front of the existing parking mauka of the station site.

The station will be located on what is now the Airport's employee surface parking lot between the international and interisland parking structures. The area is adjacent to a small USDA building and security dog park, and the airport lei stands. This area offers one of the few landscaped and shaded open spaces at the Airport.

There is potential to enhance the existing landscaped area close to the future Airport Station. It is anticipated that the existing large shaded trees, palm trees, and shrubs impacted by the station and guideway construction will be replaced with high-canopied trees and groundcover.

Improvements to the public realm needed in the immediate vicinity of the Airport Station area include: (1) enhancements to pedestrian amenities, particularly area sidewalks and wayfinding signage; (2) addition of bicycle paths and related amenities (parking and wayfinding signage); and (3) enhancement of the existing landscaped area near the lei stands between the international and interisland parking structures close to the Airport Station.

Potential TOD opportunities within ½-mile of the station and between the Airport and Lagoon Drive stations include infill and redevelopment of the commercial/industrial area along and between Rodgers Boulevard and Paiea Street, mauka of Aolele Street. There is also a need for better connectivity for pedestrians and bicyclists, particularly between the station and areas mauka of Nimitz Highway.

Lagoon Drive Station Area

Existing Land Use and Community Character

The Lagoon Drive Station is located just over 1-mile east of the Airport Station. It is situated in a mixed-use industrial and commercial area, two blocks makai of Nimitz Highway.

Makai of the station, Lagoon Drive continues south and terminates at the Airport's Reef Runway. It serves as the primary access road for air cargo shipments. Mauka of Nimitz Highway, Lagoon Drive becomes Puuloa Road.

The land use pattern around the Lagoon Drive Station area is greatly influenced by the presence of Nimitz Highway. This multi-lane, divided highway creates a physical barrier that bisects the area, creating distinct disconnected segments.

The area between the two stations along Koapaka Street, Ualena Street, and Aolele Street is primarily in commercial and light industrial use (Figure 2-3). The "face" of the Lagoon Drive Station area is along Nimitz Highway and includes car dealerships, rental car operations, and small airport hotels, while the "back" streets, such as Ualena Street, house largely industrial warehouse facilities. Although there are sidewalks along these streets, the long blocks and lack of shade trees discourage pedestrian activity. Furthermore, cars and trucks are parking over and blocking the sidewalks.

The ¼-mile zone around the Lagoon Drive Station is similar in character to the commercial/industrial area between the Airport and Lagoon Drive Stations. The area includes mixed industrial, commercial, and retail businesses along Nimitz Highway, Koapaka Street, Ualena Street, Aolele Street, and Waiwai Loop. Land uses in the Mapunapuna industrial area on the mauka side of Nimitz Highway are similar.

Keehi Lagoon Beach Park and the Keehi Lagoon Memorial Park are located on the east end of the planning area near the Lagoon Drive Station. Both offer views of Keehi Lagoon and Honolulu Harbor. Keehi Lagoon Beach Park is actively used for outrigger canoe practice and regattas, cricket, rugby, tennis, and softball.

There are no listed cultural or historic sites within the Lagoon Drive TOD area; however, there is one eligible site, the Hawaii Employers Council building constructed in 1961, which is on Waiwai Loop adjacent to Keehi Lagoon Beach Park.

Potential TOD opportunity sites include HART-owned and private properties on Lagoon Drive and Waiwai Loop.

Land Ownership

The major public property owners in the area include the State (Daniel K. Inouye International Airport), the City (Keehi Lagoon Beach Park is State land administered by the City), and the federal government (Camp Catlin Naval Housing). The remaining properties are held

by private landowners, including most of the land between Nimitz Highway and Ualena Street (Figure 2-4). Ownership in the lower Mapunapuna industrial area is a mix of private and State (Department of Land and Natural Resources [DLNR] and Department of Hawaiian Home Lands [DHHL]).

Density and Intensity

Buildings within the Lagoon Drive Station area are primarily low in height (one to three stories) and located in close proximity to one another, often with no space between buildings. The dominant form of development is warehouses built at minimal setback along streets. Development on the mauka side of Nimitz Highway, west of Puuloa Road, is single-family residences. Keehi Lagoon Beach Park and the Airport runways are located makai of the station, contributing to a feeling of openness.

Circulation

Figure 2-5 shows the lack of bus routes operating in the vicinity of the Lagoon Drive Station. Several bus routes (primarily routes 19, 20, 31, 32, 40, 42, and 62) provide service only along the main roads within ¼-mile of the Lagoon Drive Station, but do not provide service to the station site. Buses stop along Nimitz Highway and Puuloa Road, serving surrounding Lagoon Drive and Mapunapuna businesses.

Figure 2-6 shows pedestrian facilities adjacent to the Lagoon Drive Station area. With the exception of some missing sidewalk segments along Aolele Street and Lagoon Drive, the sidewalk network around the Lagoon Drive Station is generally adequate. However, crosswalks are inadequate across Lagoon Drive at Ualena Street (none) and Aolele Street (only on makai side). Additionally, there is limited access, and no paved sidewalks, into Keehi Lagoon Beach Park. There is a paved shared-use (pedestrian/bicycle) pathway located along the mauka side of Nimitz Highway, and a four-foot-wide sidewalk along the south side.

As shown in Figure 2-7, designated bike paths within the Lagoon Drive Station area are limited to a shared-use path along Nimitz Highway. For the Lagoon Drive Station area, the Oahu Bike Plan proposes bike lanes along the makai side of Nimitz Highway and along Aolele Street from Lagoon Drive to Paiea Street. The Oahu Bike Plan also proposes a bike lane (shared roadway) for Lagoon Drive connecting to the existing Puuloa Road bike lane and Nimitz Highway bike path. The HRTP Lagoon Drive Station will include a bike storage facility.

Infrastructure

Both public and private utilities, and associated infrastructure, exist within or adjacent to the planning area corridor. Typically, overhead utility lines and buried conduits and pipelines follow the existing roadways and are within the public right-of-way. Water infrastructure is well developed in the planning area. The City sewer system in the Lagoon Drive station area is sized for light industrial and/or commercial uses. Increased development may require additional wastewater capacity.

The stormwater drainage systems throughout the planning areas include facilities owned by the City and the HDOT. There is regular stormwater flooding in the Waiwai Loop area near the Lagoon Drive Station during heavy rains. This problem is due to a variety of factors, such as a lack of drainage and extensive impervious surface cover. Much of the lower Mapunapuna industrial area is located below mean sea level and also experiences flooding during high tide (water enters the street from drainage inlets) and heavy rains.

Based on information from the Hawaii Sea Level Rise Viewer and shown in Figure 2-8, some of Keehi Lagoon Beach Park and Keehi Lagoon Memorial Park, and a large portion of lower Mapunapuna are within the 3.2-foot sea level rise exposure area (SLR-XA). The 3.2-foot SLR-XA level and associated areas are what the City should be planning for regarding high-tide flooding associated with sea level rise by mid-century according to the Mayor's Directive No. 18-2. Flooding in a SLR-XA is associated with long-term, chronic hazards punctuated by annual or more frequent flooding events.

Figure 2-8, based on the Hawaii Sea Level Rise Viewer, also indicates the area of potential economic loss (10s to 100s of millions of dollars of economic costs associated with the 3.2-foot SLR-XA in the lower Mapunapuna area).

The HRTP road and median widening planned for this area will require improvements to existing drainage facilities in accordance with HDOT and City drainage standards. During community stakeholder meetings, concerns were expressed about the long-term effects of flooding and sea level rise on buildings and other structures. The HRTP Lagoon Drive Station will include a bike storage facility.

Opportunities and Constraints

The Lagoon Drive Station area is a commercial and light industrial center with nearby recreational facilities. There is potential for enhanced industrial, commercial, retail, and residential redevelopment in the area. In the planning area, the Lagoon Drive Station area has the highest volume of private landholdings by a diverse set of landowners. Stakeholder interviews revealed that redevelopment of the area is generally viewed as favorable as long as it is consistent with the current framework of land uses (i.e., primarily light industrial and warehousing).

There are a number of constraints in this area, particularly associated with pedestrian access. While roadway access to the station is good in all directions, Nimitz Highway

creates a physical barrier discouraging pedestrian traffic from mauka areas. Crossing Nimitz Highway on foot, especially at night, can be intimidating and unsafe.

Existing sidewalks on Lagoon Drive are often used as extensions of driveway aprons, forcing pedestrians to walk around obstructions encroaching onto the street. This is prevalent on all streets throughout the area.

A 20-foot front yard setback associated with a 1960-era subdivision and prior zoning regulations extends two blocks makai of Nimitz Highway between Lagoon Drive and just ewa of Ohohia Street. This setback conflicts with TOD objectives for buildings to be close to the street. On the other hand, the setback could potentially be used for wider sidewalks or green space since this area is mostly devoid of canopy and parks.

The intersection of Ualena Street/Waiwai Loop and Lagoon Drive at the station site lacks a traffic signal or other mechanisms to alert drivers to the presence of pedestrians. Streets in the area are dimly lit and lack continuous sidewalks. There are no pedestrian islands, and no street trees to provide shade. Existing crosswalks are in need of improvement. Street blocks are long, and large commercial vehicles travel at high speeds. Bus service to the station area is poor, and there are no bus shelters.

Existing retail operations are mostly located outside of a comfortable walking distance from the rail station site (i.e., in excess of the ¼-mile, five-minute walk). The unfriendly pedestrian environment further discourages walking to these destinations.

Although Keehi Lagoon Beach Park is an open space and recreational amenity, access to the park is almost exclusively by car due to a lack of bus service and an unappealing pedestrian environment.

Potential TOD opportunity sites in the vicinity of the Lagoon Drive Station include HART-owned and private properties on Lagoon Drive and Waiwai Loop.

In summary, the Lagoon Drive Station and its projected ridership, combined with the amount of private land forecasted to remain primarily industrial, may attract a limited level of typical mixed-use TOD. It does, however, present increased opportunities for employment-oriented TOD—that is, more intense development focused on creating jobs around the station.

2.3 Market Analysis

An Economic and Market Analysis was conducted as part of this plan to determine the economic outlook for the Pearl Harbor, Airport, and Lagoon Drive station areas, and to identify potential long-range TOD opportunities.

The analysis reviewed planning forecasts and prevailing real estate conditions for the region to project demand for housing, commercial uses, and accommodations in the planning area over a 20-year period to 2035. The analysis used employment and population forecasts prepared as part of the Oahu Regional Transportation Plan – 2035.

Oahu is projected to gain nearly 100,000 households during the study period, reflecting an average annual growth rate of less than one percent per year. The areas surrounding the three Airport area stations ("Trade Area") are forecast to grow at a slower rate than the surrounding region. Employment within the area is expected to grow at an even slower pace, estimated at below 0.25 percent per year. The market analysis noted that this is likely a reflection of the lack of available undeveloped land rather than potential demand. It is possible that given available capacity through zoning for additional housing (the primary influencing factor) combined with construction of enhanced transit service, the Trade Area could grow at the same pace as Oahu overall (i.e., one percent per year).

In consideration of projected employment and population growth in the Trade Area and prevailing real estate conditions, it is forecasted that by 2035 the following approximate units will be required to satisfy local demand (see Table 2-2 for more details):

- 1,030 new housing units.
- 290 new hotel rooms.
- 331,500 square feet of new commercial/industrial space (61,000 square feet retail, 70,500 square feet office, and 200,000 square feet industrial).

Table 2-2: Airport Area Existing and Estimated Market Demand to 2035

	Residential (# units)			Hotel (# units)			Commercial/Industrial (square feet)		
Station Area(s)	Existing	TOD	Gross	Existing	TOD	Gross	Existing	TOD	Gross
Pearl Harbor Station	400	1,030	1,430	0	0	0	5,826,000	331,500	6,157,500
Airport/Lagoon Drive Stations	0	0	0	250	290	540			

Source: Colliers International and AECOM 2014.

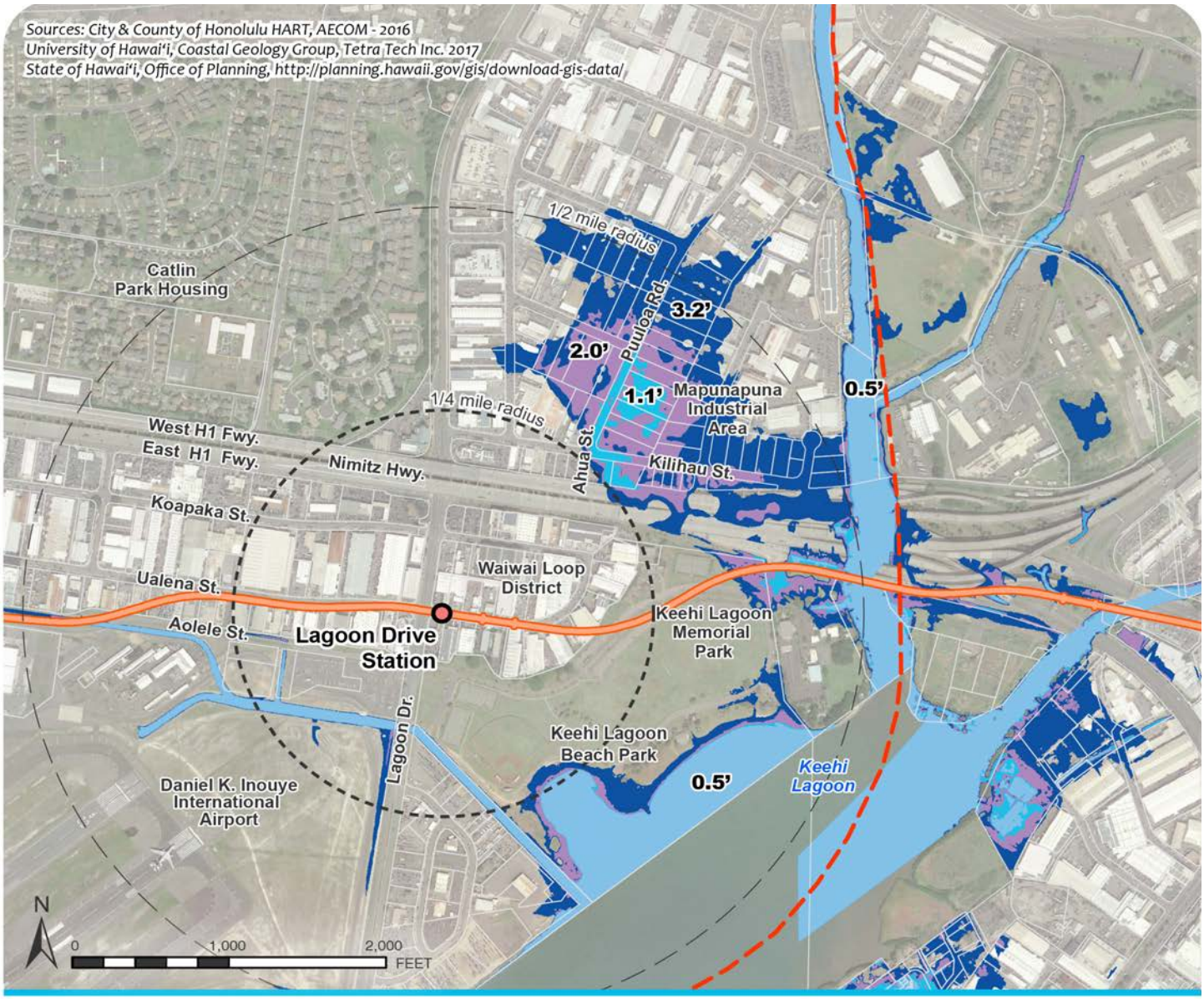


Figure 2-8: Lagoon Drive Station Sea Level Rise Exposure

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area

Sea Level Rise Exposure

- 3.2 feet
- 2.0 feet
- 1.1 feet
- 0.5 feet

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3.0
Plan Overview

3.0 Plan Overview

This chapter summarizes the general vision and principles developed as part of the planning process. It also describes the five primary components addressed in the Plan for each of the three station areas.

3.1 Plan Overview

Public engagement was vital in the development of the overall and station-specific visions and principles. This included input from neighborhood residents, business owners and employees, property owners, other stakeholders, and the general public. The plan for each station area is a reflection of these community ideas.

As illustrated in Figure 3-1, the Plan focuses primarily on the immediate station vicinity (¼- and ½-mile TOD Zones) but also considers a larger Primary Ridership Area. For context, also shown are the stations on either side of the Airport area—the Aloha Stadium Station to the west and the Middle Street Station to the east.

The overall vision and principles that follow provided the basis for the preferred station area plans. The preferred plans are presented in Chapters 4, 5, and 6 for the Pearl Harbor, Airport, and Lagoon Drive Station areas, respectively.

The Airport area is the gateway to Hawaii and one of Oahu's premier employment centers. This working neighborhood provides something for everyone and is a dynamic center for trade, commerce, and military operations in the region.

Overall Vision

The Airport area—including the three subject rail stations—is envisioned to remain as the gateway to Hawaii and one of Oahu's premier employment centers. The Airport area will host thriving and growing industrial, commercial, and office spaces. The rail stations will support economic vitality by providing transportation for employees and customers. Visitors should be welcomed by a Hawaiian sense of place and convenient amenities within walking distance. Nearby residents will be able to work and play close to their homes. A diverse and connected transportation network will continue to enhance the area's role as a hub for local, interisland, and international travel. This working neighborhood can provide something for everyone as a dynamic center for trade, commerce, and military operations in the region.

Overall Principles

General principles have been developed that underpin the vision for the general Airport area and specific station areas. Connectivity at every level is a key goal of TOD, including reliable public transit, safe and accommodating pedestrian infrastructure, adequate bicycle paths, and clear, easy-to-navigate vehicular conditions. For these reasons, connectivity is integrated throughout the general principles and applied to the plans for all three station areas. The overall Airport area TOD principles are as follows:

- Preserve the Airport/Lagoon Drive area as a primarily industrial and services employment center.
- Provide an accessible transportation network of streets and paths that balance efficient vehicular and freight access with safe pedestrian, bicycle, and public transit travel.
- Encourage dense, job-rich uses adjacent to the rail stations by ensuring adequate infrastructure capacity, including drainage and sea level rise accommodations.
- Introduce more urban land uses near and along Lagoon Drive to take advantage of the rail station, Keehi Lagoon Beach Park, and harbor views.
- Create a sense of arrival by encouraging gateway features near the main entrances to JBPHH and the Airport, supported by wayfinding elements throughout the area.
- Utilize urban design elements that draw from and enhance the unique historical, cultural, and physical aspects of each station area.
- Integrate neighborhood-scale gathering spaces in a way that promotes safety and a sense of ownership.

3.2 Station Area Plan Overview

Each station area plan in Chapters 4, 5, and 6 addresses the five topics described below. These topics form the structure used to describe the plans for each station area component.

Vision and Overall Structure

The plan for each station area reflects the community's long-range vision for the lands surrounding the rail

Figure 3-1: Overview Map

Sources: State of Hawaii, City & County of Honolulu DPP, HART, AECOM - 2016

Legend

- Station Location
- Rail Guideway Alignment
- Primary Ridership Area
- Station Area TOD Zones

Note: For illustrative purposes only – not officially endorsed by the federal government.

station. The overall structure of the station areas, and the specific land use recommendations, were based on the community vision. This vision will continue to guide decisions about future growth and development.

Connectivity and Circulation

Connectivity and circulation address vehicular, bicycle, and pedestrian access to and from each station, and within the station area, encouraging alternatives to driving. The new transit stations are part of a larger transportation system that should connect to surrounding neighborhoods.

As shown in Figure 3-2, this plan recommends an integrated and convenient area-wide, multi-modal circulation network. Using the City Complete Streets Design Manual, the goal is to improve the street grid and problem intersections, address the pedestrian and bicycle network deficiencies described in Section 2.2, and enhance bus transit and direct connections between rail and other modes.

Additional bus routes will provide a high level of bus/rail integration. New streets, bicycle and pedestrian paths, and trails are recommended to accommodate pedestrians, bicyclists, kiss-n-ride drop-offs/pick-ups, buses, and local traffic. The bicycle facilities in nearby neighborhoods and adjacent station areas (Halawa and Middle Street) need to be connected to the Airport area stations, preferably with off-street paths or protected bicycle lanes.

Improved connections between residences, employment, and recreation are proposed for each station area. Any such improvements will comply with the standards set forth by the Americans with Disabilities Act (ADA).

Open Space and Parks

Open spaces and parks are intended to provide recreational and passive areas for the public to enjoy. New spaces are proposed, and existing ones preserved, throughout the TOD areas, encouraging community gathering through well planned and usable space.

Land Use

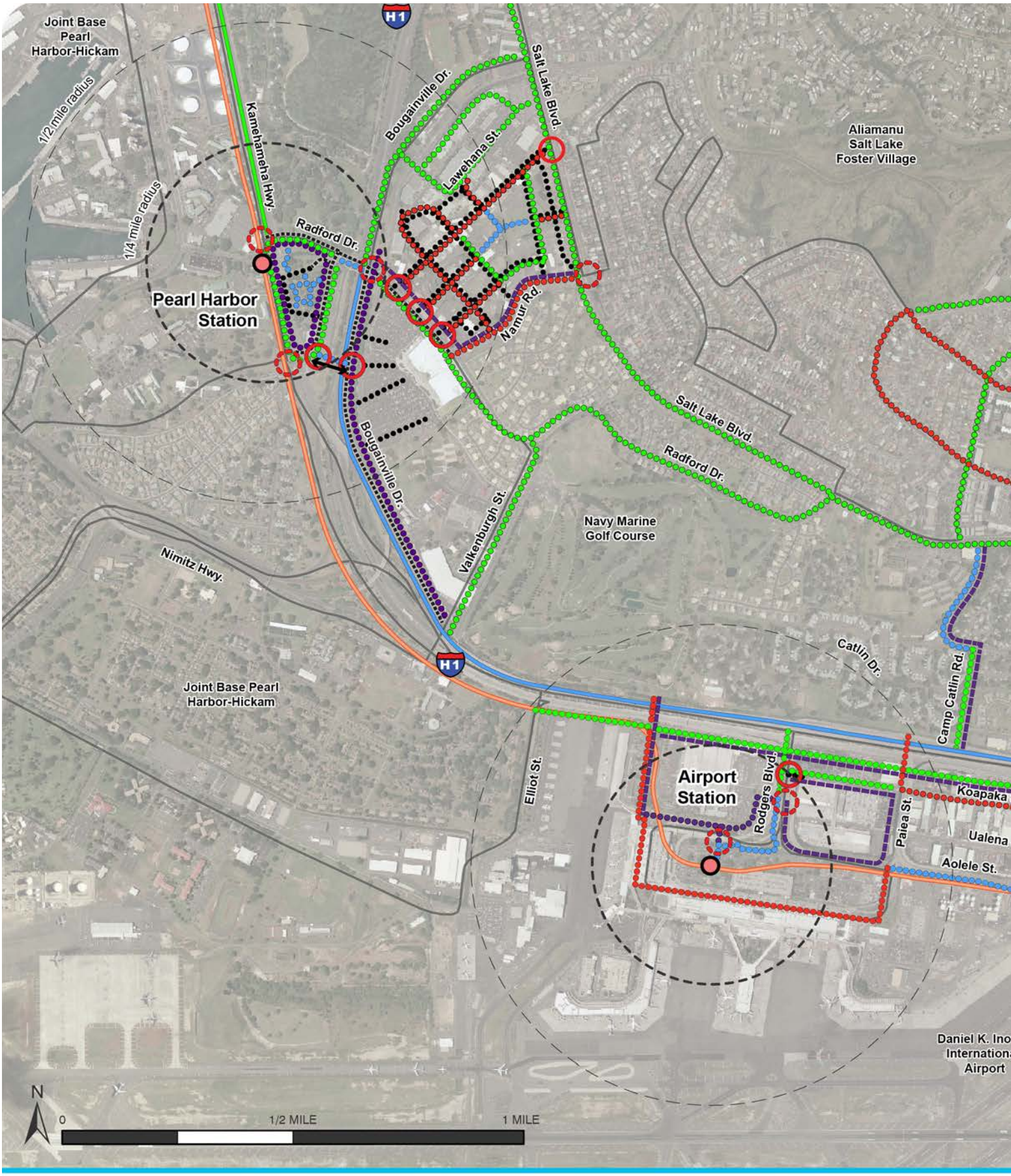
Land use encompasses the broad categories or types of uses in a given area. A flexible mix of appropriate land uses should be located within convenient walking distance of the stations, with higher densities generally located closer to the station. The proposed land uses and TOD Special District boundary are summarized for each station area based on the plan principles and community feedback.

Urban Form

Urban form refers to the physical shape and structure of the built environment. It is influenced by natural and human-made elements, including topography, streams, parks, freeways, streets, blocks, lots, and buildings. Higher density and multi-faceted land uses are proposed for the station areas as part of TOD, all while maintaining the existing fabric of the neighboring communities.

DPP's development standards in the TOD Special District primarily relate to urban form. Specifically, the standards guide building placement and ground-floor design, particularly along key streets. Key streets are the streets within the TOD Special District most vital to facilitating a walkable, vibrant neighborhood, and high-quality routes to transit. Certain development standards will apply only to properties fronting a designated key street.

This subject area explores whether any modification/adjustment to the TOD Special District regulations is warranted due to unique circumstances in the Airport area.


Joint Base Pearl Harbor-Hickam
1/2 mile radius
1/4 mile radius
Kamehameha Hwy.
Bougainville Dr.
Salt Lake Blvd.
Lawehana St.
Aliamanu Salt Lake Foster Village
Radford Dr.
Pearl Harbor Station
Namur Rd.
Salt Lake Blvd.
Radford Dr.
Bougainville Dr.
Valkenburgh St.
Navy Marine Golf Course
Nimitz Hwy.
H1
Catlin Dr.
Camp Catlin Rd.
Joint Base Pearl Harbor-Hickam
Elliot St.
Airport Station
Rodgers Blvd.
Koapaka
Paiea St.
Ualena
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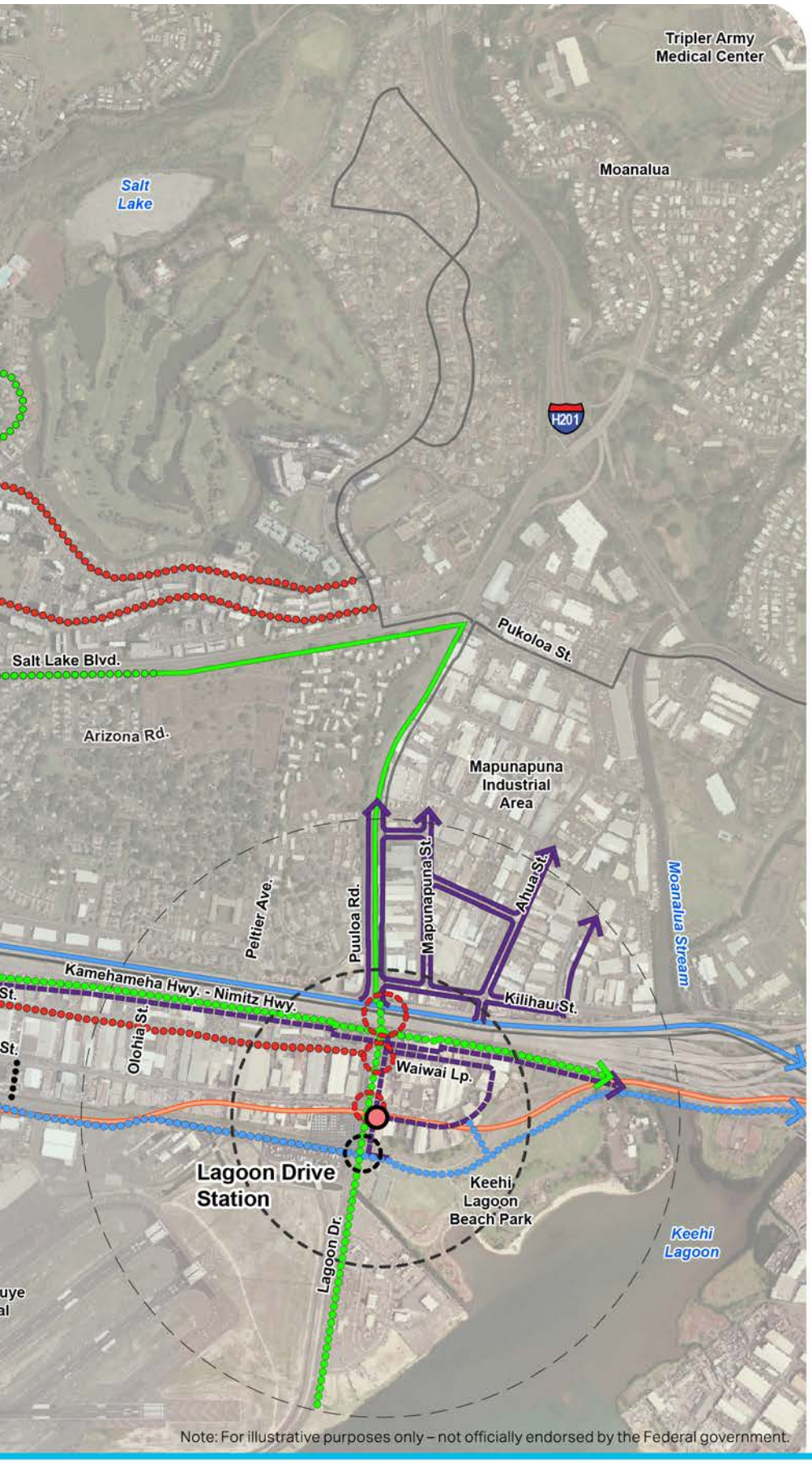


Figure 3-2: Area-Wide Existing and Proposed Circulation

4.0

Pearl Harbor (Makalapa) Station Area

4.0 Pearl Harbor (Makalapa) Station Area

4.1 Vision and Overall Structure

JBPHH will continue to play an important role as the center of Naval and Air Force operations in the Pacific. Located adjacent to the Makalapa Gate, the Pearl Harbor Station will improve access to on- and off-base destinations.

Under this plan, the Pearl Harbor Station area is envisioned as a mixed-use community providing a range of housing and jobs within easy walking distance of the rail station. Civilian retail, dining, and commercial services would be enhanced due to their proximity to the rail station, and provide more opportunities for servicemen and women, and their dependents. The area could provide attractive and affordable housing options, and community and educational services for both military and civilian families.

It is important to note that the Navy/federal government has not officially endorsed this plan and will continue dialog over time.

The Pearl Harbor Station area is envisioned as a mixed-use community providing a range of housing and jobs within easy walking distance of the rail station.

Existing view and conditions at the intersection of Radford and Bougainville Drives, looking over the H-1 Freeway overpass with NAVFAC Hawaii on the left

The Plan focuses on redevelopment in four areas: (1) the station site parcel; (2) the Little Makalapa area, adjacent to and within ¼-mile of the station; (3) the current NAVFAC Hawaii area, about ½-mile to the east of the station; and (4) the surface parking lot adjacent to The Mall at Pearl Harbor. These areas are shown in Figure 4-1.

View of proposed conditions: pedestrian/bicyclist-friendly Radford Drive H-1 Freeway overpass with new mixed-use development on NAVFAC Hawaii site (Note: for illustrative purposes only – not officially endorsed by the federal government)

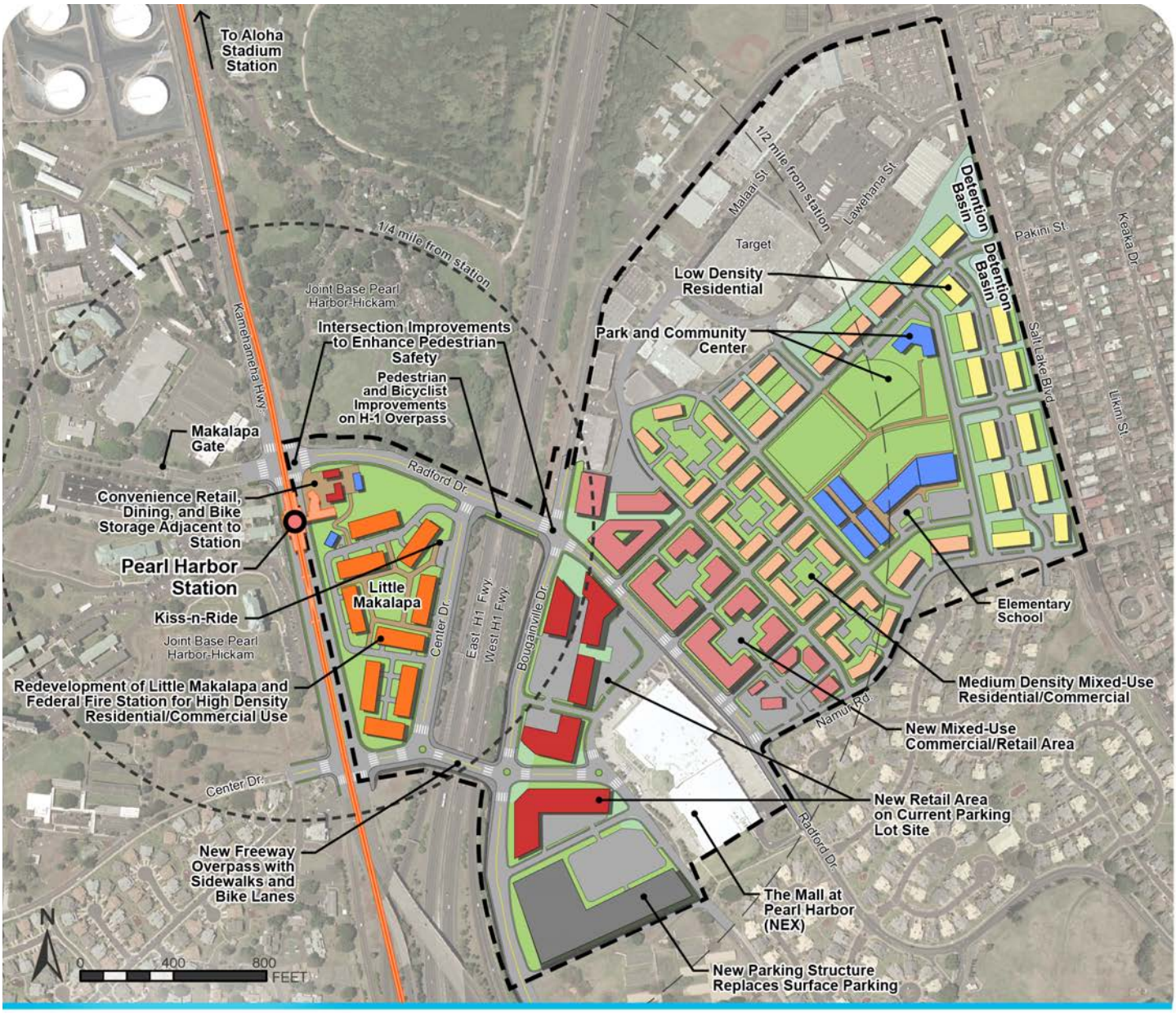


Figure 4-1: Pearl Harbor Station Area Illustrative Plan

Legend

- Station Location
- Rail Guideway Alignment

Building Type Key:

- Mixed-Use Commercial/Retail
- Retail
- Public/Education
- Low Density Residential
- Medium Density Mixed-Use Residential/Commercial
- High Density Mixed Use Residential/Commercial
- Structured Parking

Other:

- TOD Zone
- Roads/Parking
- Plaza and Pathways
- Green Space/Open Space

Note: For illustrative purposes only – not officially endorsed by the federal government.

A key concept for this area is activating the station with convenience retail, casual dining, bicycle storage, and a transit plaza adjacent to the station. A small park is also proposed in this area. This plan supports sensitive redevelopment of the Little Makalapa area into a new high-density, multi-family residential community close to the station.

The Navy's deteriorated and abandoned Little Makalapa housing area is listed as a NRHP historic district. A NRHP listing alone does not necessarily preserve the property in the future, although impacts must be considered. The Advisory Council on Historic Preservation and the public would also have an opportunity to comment. Any redevelopment should accommodate preserving this district to the greatest extent possible and practical.

Located further from the station is the current NAVFAC Hawaii site. The plan for this area is complete redevelopment into a new civilian community with various housing types, commercial and retail uses, as well as a new elementary school, park, and community center. This could occur once a new on-base home is found for NAVFAC Hawaii. New blocks of about 350 feet in length are encouraged to promote walkability.

The large surface parking lot serving The Mall at Pearl Harbor could also be transformed into a new retail area. The displaced parking could be replaced in a new parking structure with multipurpose surface parking/ event space on the perimeter.

4.2 Connectivity and Circulation

A fundamental element of the Pearl Harbor Station area plan is to create convenient access for all modes of transportation, including walking and bicycling. Proposed circulation improvements are shown in Figure 4-2.

An important element of the Plan is to create convenient and safe connections that encourage walking and bicycling to and from the Pearl Harbor Station.

A new freeway overpass connecting Center Drive and Bougainville Drive is proposed to provide better connectivity between new residences near the station and new development on the NAVFAC Hawaii site and The Mall at Pearl Harbor (these two areas are located on opposite sides of the H-1 Freeway). The diamond head side of the existing Radford Drive overpass should be widened and enhanced for pedestrians and bicycles, providing a safer, more pleasant route to and from the station. A "kiss-n-ride" should be located on the makai side of Center Drive near the intersection with Radford Drive. While not adjacent to the station, this location (approximately 700 feet away) offers transit riders the closest safe location to be dropped off and picked up.

Pedestrian crossings at all area intersections should be upgraded as new development occurs to facilitate pedestrian movement and safety. The following key improvements are proposed for the Kamehameha Highway/Radford Drive intersection and the Radford Drive/Bougainville Drive intersection:

- Shorten crossing distances and create safer pedestrian crossings by eliminating "porkchop" turn lanes and reducing curb radii.
- Provide protected pedestrian refuge zones through the provision of raised medians.

All new and designed roadways in the planning area should be developed in accordance with Honolulu's Complete Streets guidelines, including:

- Roundabouts and neighborhood traffic circles in place of signalized and 4-way stop intersections, where practical.
- Mid-block pedestrian crossings with z-shaped crosswalks through raised medians that afford pedestrian refuge.
- Curb extensions and bulbouts that shorten pedestrian crossing distances and provide a means to slow traffic and increase safety.
- Sidewalks with width appropriate to surrounding uses (e.g., wider in commercial/retail areas).
- Dedicated bicycle facilities, preferably off-street or protected from vehicular traffic.
- Street trees and landscaped areas between the street curb and sidewalk.

Complete street concept illustrating wide sidewalks adjacent to retail and commercial establishments, landscaped medians, curb extensions, and differentiated crosswalks (honolulu.gov)

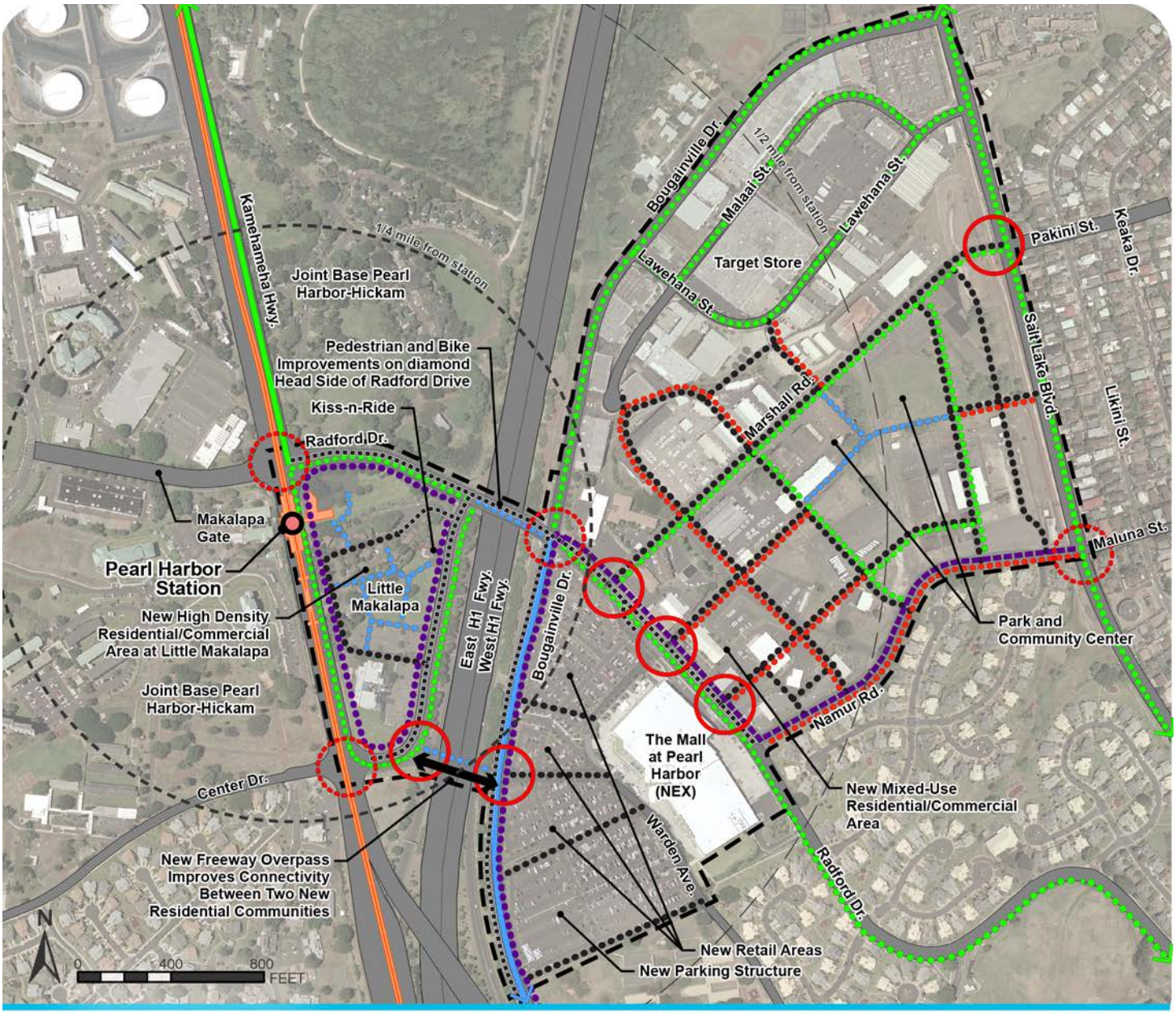


Figure 4-2: Pearl Harbor Station Area Existing and Proposed Circulation

Legend

- Station Location
- Rail Guideway Alignment
- TOD Zone

Crosswalks

- Proposed New Intersection Crossings
- Proposed Crossing Improvements

Bike/Pedestrian

- Existing Bike Lane
- Proposed Bike Lane
- Existing Bike Path
- Proposed Multi-Use Path
- Proposed Bike Route
- Proposed Sidewalk Improvements
- Proposed Sidewalk

Roadways

- Existing Roadway
- Proposed Road
- Proposed Road Improvements
- Proposed Freeway Overpass

Note: For illustrative purposes only – not officially endorsed by the federal government.

Table 4-1: Oahu Bike Plan Recommendations for the Pearl Harbor Station Area					
Project ID	**Name**	**Description**	**Type**	**Owner**	**Length (mi)**
1-110	Bougainville Dr.	Radford Dr. to Salt Lake Blvd.	BBL	State	0.60
1-121	Salt Lake Blvd.	Namur Rd. to Ala Lilikoi St.	PBL	City	0.99
1-122	Salt Lake Blvd.	Kamehameha Hwy. to Namur Rd.	PBL	City	1.79
2-185	Namur Rd.	Radford Dr. to Salt Lake Blvd.	SR	Federal	0.34
2-188	Radford Dr. (Western Section)	Kamehameha Hwy. to Bougainville Dr.	BL	State	0.25
3-170	Center Dr.	Kamehameha Hwy. to Radford Dr.	BL	City	0.26
3-180	Lawehana St.	Bougainville Dr. to Salt Lake Blvd.	BL	City	0.38
3-182	Malaai St.	Lawehana St. to Lawehana St.	BL	City	0.29
3-184	Radford Dr. (Eastern Section)	Bougainville Dr. to Salt Lake Blvd.	BL	Federal	1.24

Source: Oahu Bike Plan (2019)
Bicycle Facility Acronyms: BBL = Buffered Bike Lane; BL = Bike Lane; PBL = ProtectedBike Lane; SR = Shared Roadway

Roads within the new community on the NAVFAC Hawaii site should be oriented in a grid pattern, and connected to the adjacent commercial/retail area on the ewa side. Sidewalks and bike lanes should be provided throughout the new community to encourage walking and bicycling.

Table 4-1 shows the recommendations from the Oahu Bike Plan for the Pearl Harbor Station area. This plan reiterates the Oahu Bike Plan and makes additional recommendations, as shown in Figure 4-2, which includes bike facilities on the new roads and bridges.

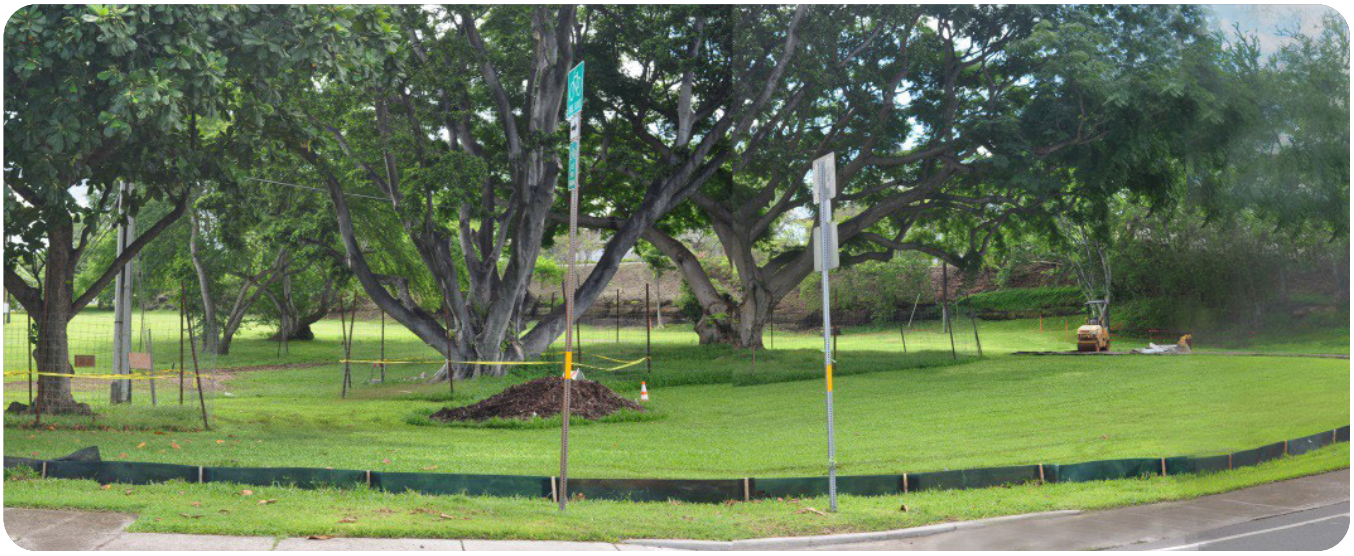
A mobility hub, including a bicycle storage facility, also referred to as a "bike park," is proposed adjacent to the station, offering users a protected, well-lit, safe, and secure environment to store their bicycles. This will encourage transit riders to ride their bikes between home or work and the station. Future bikeshare stations throughout the community would provide a further incentive through the increased convenience and accessibility of rentable bikes.

Protected bicycle lane, landscape strip with street trees, and wide sidewalk (treehugger.com)

Example of a secure bicycle storage area or "bike park" proposed adjacent to the station (thewashcycle.com)

4.3 Open Space and Parks

A key feature of the proposed community on the NAVFAC Hawaii site is a centralized park and community center (Figure 4-1). The park is envisioned to be the heart of the new community and a gathering place for sporting and other civic events. The park is proposed to be surrounded by a new elementary school and housing.



Previous view of the Pearl Harbor Station location on the corner of Kamehameha Highway and Radford Drive

An active transit plaza adjacent to the Pearl Harbor Station with convenience retail, dining, bicycle facilities, and a park

Roads and parking should be limited to the periphery of the park and school, creating an open space free of vehicles. Blocks of new medium-density residential units are envisioned without individual yards that instead include neighborhood mini-parks and landscaped pathways.

The creation of open space, parks, and facilities for civic activities is at the heart of the two proposed residential communities near the Pearl Harbor Station.

Neighborhood parks should also be created in conjunction with any new development at the Little Makalapa site. Pedestrian and bicycle pathways should provide connections throughout the area, including to the adjacent rail station at the bottom of the hill.

Streets should have landscaped buffers between the sidewalk and roadway, providing an area for street trees and a buffer between pedestrians and vehicles. Ample landscape and plaza space should be located in and around all new mixed-use commercial and retail areas.

Open space features proposed at the station include a plaza and adjoining park among the area's mature monkeypod and banyan trees.

4.4 Land Use

The land uses presented in this section are based on the Plan principles and reflect input on the alternatives received from the community and area stakeholders. The land uses described below and shown in Figure 4-3 present a balanced range of use types and densities

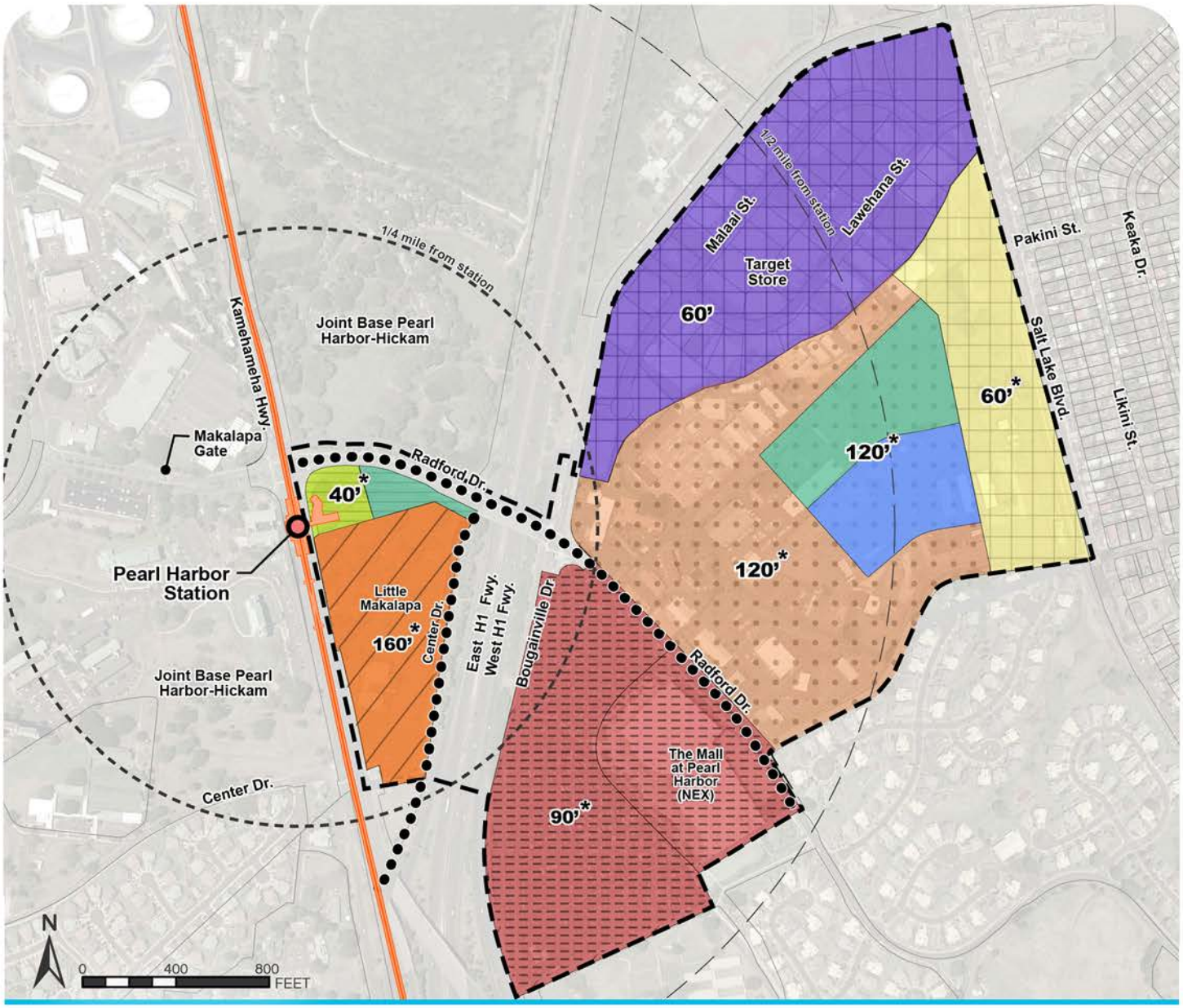


Figure 4-3: Pearl Harbor Station Area Proposed Land Use/Zoning

Maximum Floor Area Ratios (FAR) and Height Limits

Legend

- Station Location
- Rail Guideway Alignment
- TMK Parcel
- Key Street
- TOD Zone

Proposed Land Use/Zoning:

- Low Density Residential (3.8 FAR with Bonus)
- Medium Density Mixed-Use Residential/Commercial (7.0 FAR with Bonus)
- High Density Mixed Use Residential/Commercial (7.0 FAR with Bonus)
- Mixed-Use Industrial/ Commercial (5.0 FAR with Bonus)
- Public/Education (7.0 FAR with Bonus)
- Retail
- Park
- Park/Accessory Retail
- 40' Height Limit
- 60' Height Limit
- 90' Height Limit
- 120' Height Limit
- 160' Height Limit
- * Maximum Height with Bonus

Note: For illustrative purposes only – not officially endorsed by the federal government.

within the surrounding context. In addition, "key streets," which are important routes to transit and contribute to a walkable, vibrant, and economically active neighborhood, are identified.

New mixed-use communities would offer a range of housing, parks, community facilities, and commercial and retail space.

The areas proposed to be most intensively developed are the Little Makalapa site (possibly only portions) and the commercial and retail areas in the vicinity of The Mall at Pearl Harbor, including along Radford Drive.

Redevelopment on the Little Makalapa site could include high-density housing with neighborhood parks. An existing house could be preserved and repurposed into a museum or community center to enhance the area's history and serve as a community resource.

The new residential community on the NAVFAC Hawaii site could incorporate a combination of high-, medium-, and lower-density housing, along with park, school, and community uses. Low-density housing would be located along the makai side of Salt Lake Boulevard to provide a transition between denser uses and the existing single-family residential on the mauka side of the street. This new community should include both residential and commercial uses.

New retail development is envisioned adjacent to The Mall at Pearl Harbor on what is currently a large surface parking lot. The new retail and commercial areas can be developed over time as new housing is constructed and market demand grows. These establishments would provide nearby residents with a variety of services and jobs in an active, pedestrian-friendly environment.

Table 4-2 provides a breakdown of the amount of residential, commercial, retail, industrial, and public land uses proposed for the Pearl Harbor Station area. These numbers assume the scenario shown in Figure 4-1.

Additional development or open space opportunities not factored into Table 4-2 could be explored over a freeway cap between Radford Drive and the proposed Center Drive bridge, including exploration of associated regulatory requirements. This new space would further connect Little Makalapa and The Mall at Pearl Harbor.

The FAA and HDOT impose restrictions in this area, including height limits (calculated from mean sea level). The recommended height in Little Makalapa reflects their upper limitations; however, topography may further restrict building height. Projects need FAA approval to develop. Determining actual elevation and project site planning, which might include excavation that reduces elevation from mean sea level, will impact what ultimately can be built. Additionally, the Navy could seek FAA approval for higher heights in conformance with the higher density envisioned in this area, including in the Navy's TOD site master planning.

Table 4-2: Pearl Harbor Station Area Proposed Development by Land Use Type

Land Use	Square Feet	Dwelling Unit	Percent
Low Density Residential*	683,660	570	10%
Medium Density Mixed Use Residential/ Commercial**	1,597,400	1,597	24%
High Density Mixed Use Residential/ Commercial***	538,300	769	8%
Mixed Use Industrial/ Commercial	1,566,450	NA	23%
Public/Education	290,060	NA	4%
Retail	1,586,900	NA	24%
Park	403,175	NA	6%
Park/Accessory Retail	70,370	NA	1%
Total	**6,736,315**	**2,936**	**100%**

Notes:
*Low Density = 1,200 square feet per unit
**Medium Density = 1,000 square feet per unit
***High Density = 700 square feet per unit
NA = Not Applicable

4.5 Urban Form

Figure 4-4 illustrates potential building heights and massing (i.e., the general size of the proposed buildings). Building heights and massing should be less intense near the existing low-density, single-family residences along Salt Lake Boulevard (outside the TOD Zone). Larger, taller buildings (more than 100 feet in height) of greater density should be located closer to Radford Drive, which is proposed as a TOD-designated key street. Buildings along key streets include additional

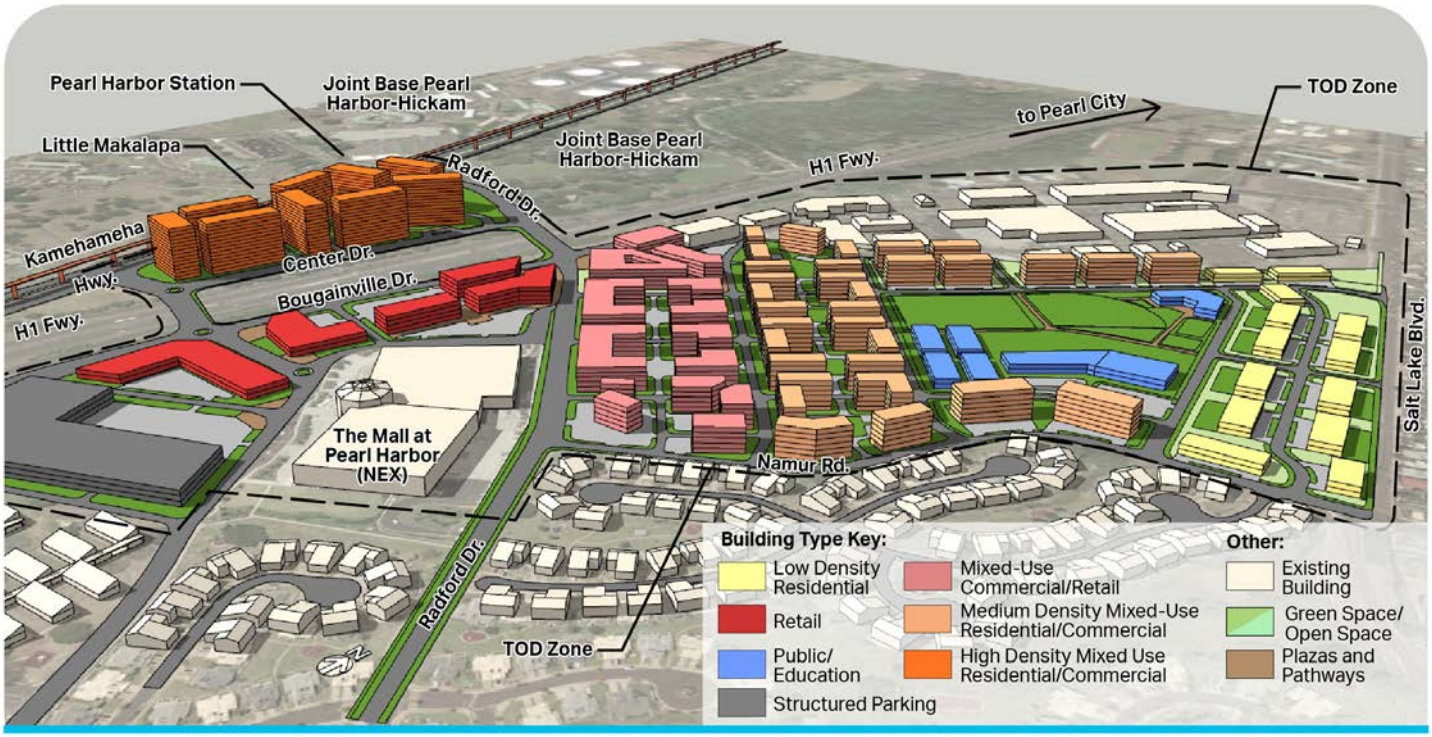


Figure 4-4: Pearl Harbor Station Area Illustrative Massing

Note: For illustrative purposes only – not officially endorsed by the federal government.

design considerations and must incorporate active uses at the street level.

The City's tall building guidelines include: (1) tower massing of the three major sections of a building (podium, tower, and top), (2) natural air ventilation, (3) setbacks, and (4) tower orientation. In certain circumstances, view studies are necessary.

New commercial development should be oriented toward public sidewalks with parking located in the interior or rear. The corner of Radford Drive and Bougainville Drive could become the beginning of a new main street, with pedestrian plazas and an entrance feature on each corner, joining the new community on the NAVFAC Hawaii site and The Mall at Pearl Harbor.

The Plan focuses primarily on medium-density development within ½-mile of the Pearl Harbor Station.

New retail development adjacent to The Mall at Pearl Harbor, with the exception of retail directly facing Radford Drive, should be oriented toward the existing Mall and associated plazas to create a retail lifestyle center.

Redevelopment of the combined Little Makalapa and/or federal fire department area as new high-density, mixed use would make more efficient use of these transit- and JBPHH-adjacent properties. There is potential to reimagine Little Makalapa from a derelict, underutilized site to a transit–oriented neighborhood.

To maintain the existing park-like environment near the station, the area should be developed sparsely. New buildings should fit into the existing landscape around the mature shade trees.

5.0

Airport (Lelepaua) Station Area

5.0 Airport (Lelepaua) Station Area

5.1 Vision and Overall Structure

The Airport Station area is envisioned with a distinctly Hawaiian sense of place for passengers arriving at and departing from the Daniel K. Inouye International Airport. The station area should offer lodging, commercial uses, and offices, with convenience retail for workers and travelers. Improved transportation connections would facilitate safe, convenient movement throughout the station area without the need for a vehicle. Clear signage and other urban design elements would assist with wayfinding and directing people between station area destinations.

The Airport Station Area should convey a distinctly Hawaiian sense of place for airport passengers.

The Plan, as shown in Figure 5-1, focuses on redevelopment in three areas: (1) the area immediately around the station; (2) the large surface parking lot adjacent to the Post Office building; and (3) mixed-use industrial and commercial areas within ½-mile of the Airport Station along Paiea and Koapaka Streets.

TOD opportunity areas around the station include redevelopment of surface parking lots and the lei stands, adding services such as convenience retail, dining, hotels, office space, and new lei stand facilities. This area's proximity to the Airport and the rail station makes it ideal for these uses. In addition, the Airport would benefit from a new iconic placemaking element, or elements, celebrating the Daniel K. Inouye International Airport as the state's primary point of entry and departure.

Day and night images of the iconic Arthur Godfrey Fountain that graced the front of the Honolulu International Airport from 1963 to the mid-1970s (Honolulu Advertiser, October 24, 2003; vintage postcard, 1969

5.2 Connectivity and Circulation

As illustrated in Figure 5-2, the Plan emphasizes improved circulation within and around the station area to enhance pedestrian and bicycle access, vehicular safety, mauka-makai and ewa-diamond head street connections, and wayfinding. These circulation improvements are compatible with the State's ongoing, multi-year airport modernization program, which seeks to improve passenger experience and implement Complete Streets.

Koapaka Street, which currently dead-ends before reaching Rodgers Boulevard, should be opened up to Rodgers Boulevard for all modes of transportation, allowing for better circulation between Paiea Street and the Airport. It would also alleviate some of the current bottleneck and hazardous conditions at the Koapaka/Paiea Street intersection that result from a single ingress/egress point. Opening Koapaka Street to Rodgers Boulevard for right turns only (into and out of Koapaka Street) would give drivers two route choices. Traffic would be dispersed, and there would be decreased demand at the Koapaka/Paiea Street intersection.

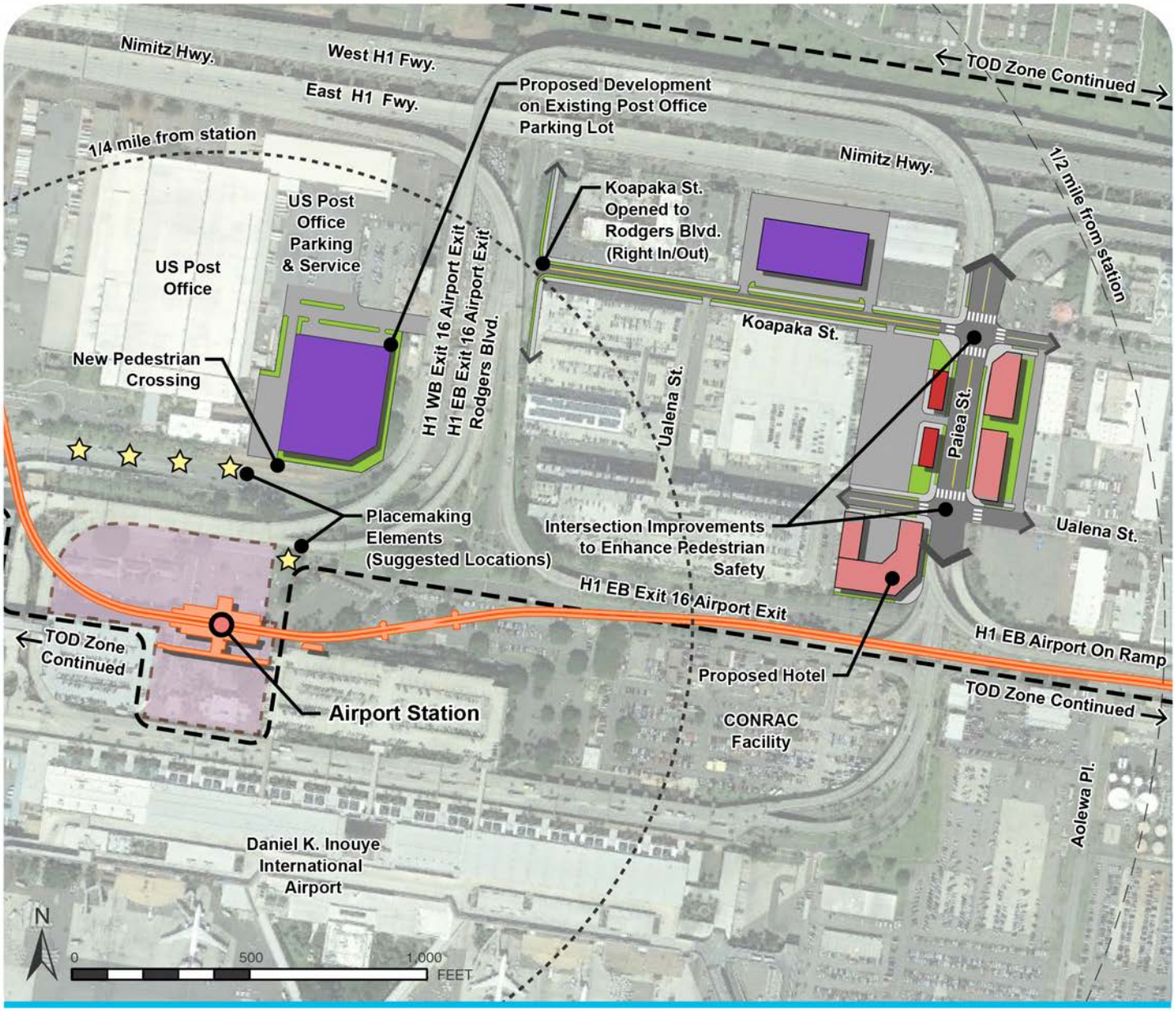


Figure 5-1: Airport Station Area Illustrative Plan

Legend

- Station Location
- Rail Guideway Alignment

Building Type Key:

- Mixed-Use Commercial/Retail
- Retail
- Mixed-Use Industrial/Commercial

Other:

- Roads
- Parking
- Enhanced Landscaping
- Future Development Opportunity
- TOD Zone

Key Map

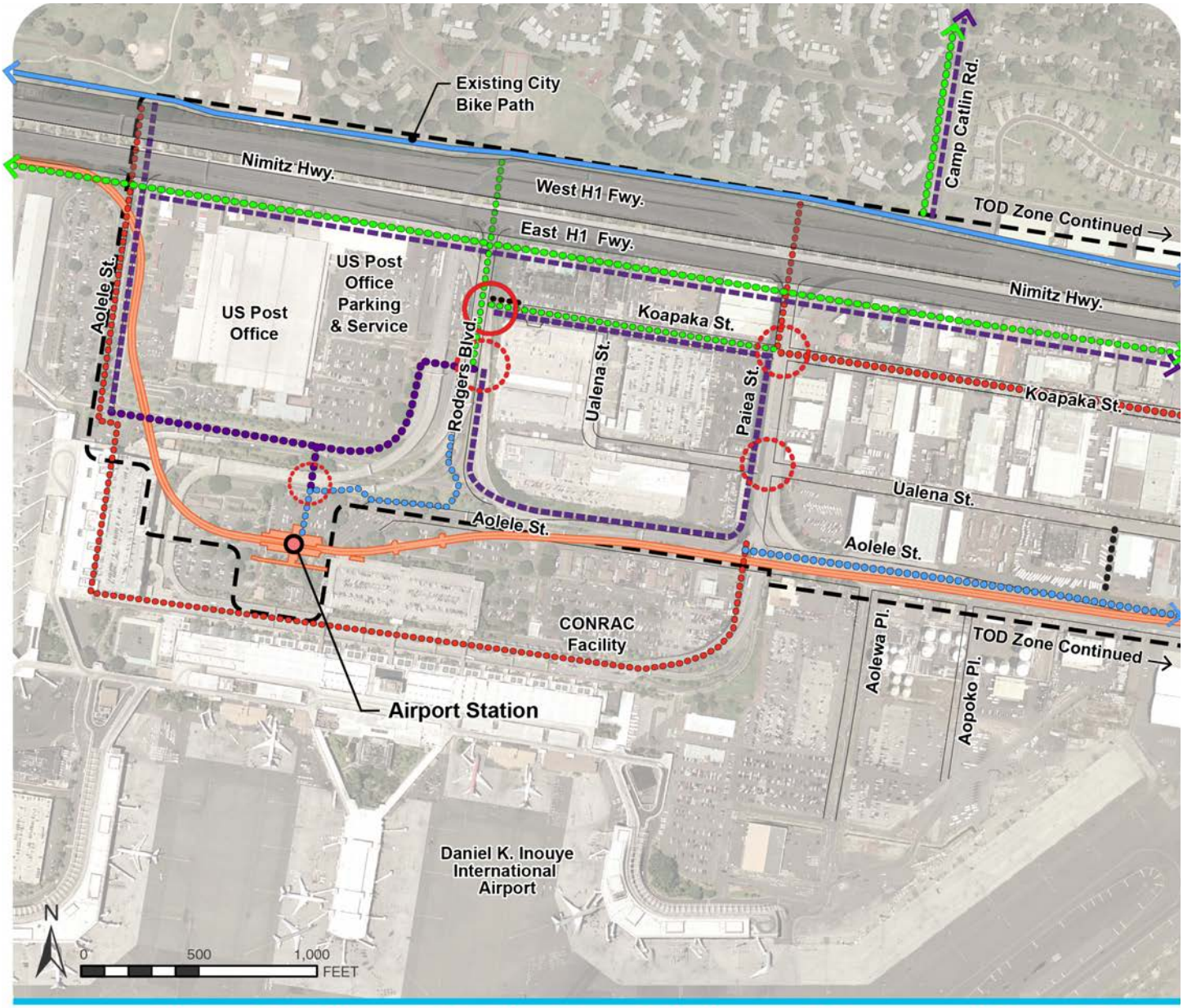


Figure 5-2: Airport Station Area Existing and Proposed Circulation

Legend

- Station Location
- Rail Guideway Alignment
- TOD Zone

Crosswalks

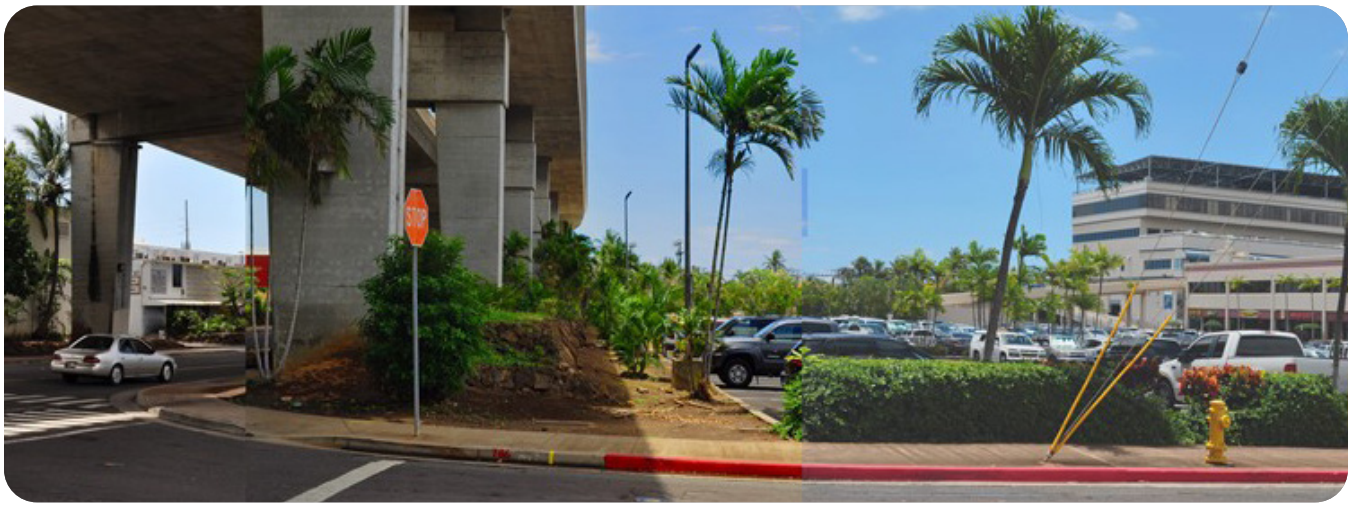
- Proposed New Intersection Crossings
- Proposed Crossing Improvements

Bike/Pedestrian

- Proposed Bike Lane
- Proposed Bike Route
- Existing Bike Path
- Proposed Multi-Use Path
- Proposed Sidewalk Improvements
- Proposed Sidewalk

Roadways

- Existing Roadway
- Proposed Road



Existing view at the intersection of Paiea and Koapaka Streets looking makai with the H-1 offramp overhead and commercial buildings and warehouses on either side of Paiea Street

TOD vision of the Paiea/Koapaka Street intersection with additional retail, dining, and hotel uses along with enhanced pedestrian and bicycle facilities

A new sidewalk is proposed fronting the Post Office parking lot that would provide a direct pedestrian connection between Rodgers Boulevard and Aolele Street and could take advantage of the existing traffic signal for crossings to the station. Sidewalk improvements, including widening, landscaping, and wayfinding signage, are proposed along Aolele Street, Rodgers Boulevard, Koapaka Street, and Paiea Street. Additionally, a shared multi-use path is proposed along Aolele Street between the Airport and Lagoon Drive.

The current pedestrian path in the medians of Rodgers Boulevard and Aolele Street that provides access to the Airport near the lei stands should be upgraded to a multi-use path for pedestrians and bicyclists. This would require widening and appropriate signage.

Example of detectable warning lights on crossing signs

Table 5-1: Oahu Bike Plan Recommendations for the Airport Station Area					
Project ID	**Name**	**Description**	**Type**	**Owner**	**Length (mi)**
2-170	Airport Access Path	Rodgers Blvd. to Airport HART Station	SUP	City	0.26
2-173	Arizona Rd.	Camp Catlin Rd. to Salt Lake Blvd.	SUP	City	0.30
2-174	Camp Catlin Rd.	Nimitz Hwy. to Arizona Rd.	BL	City	0.23
2-175	Airport Access Rt.	Aolele St. to Paiea St.	SR	State	1.19
2-186*	Nimitz Hwy	Valkenburgh St. to Sand Island Access Rd.	BL	State	6.03
3-169*	Aolele St.	Airport Loop to Lagoon Dr.	BL	State	0.87
3-185	Rodgers Blvd.	Nimitz Hwy. to Airport Acces Path	BL	City	0.11

Source: Oahu Bike Plan (2019)
Bicycle Facility Acronyms: BL = Bike Lane; SR = Shared Roadway; SUP = Shared Use Path
*Project overlaps Airport and Lagoon Drive Station areas

Table 5-1 shows the recommendations from the Oahu Bike Plan for the Airport Station area. This plan mostly reiterates the Oahu Bike Plan (except for Paiea and Ualena Streets as shared roadways upon further examination) and makes additional recommendations, as shown in Figure 5-2, including the multi-use paths described above (also in place of bike lanes on Aolele Street) and bike lanes along a portion of Koapaka Street.

Pedestrian upgrades are proposed for the Paiea/Koapaka Street intersection, the Paiea/Ualena Street intersection, the mid-block crossing of Rodgers Boulevard where the multi-use path would be located, and the new intersection where Koapaka Street would intersect with Rodgers Boulevard.

The following measures are proposed to create safer pedestrian conditions throughout the area (to be confirmed through a more in-depth traffic analysis):

- Restrict right turns on red.
- Increase crossing times so that people who walk slowly have sufficient time to cross.
- Provide pedestrian lead-time and an accessible pedestrian signal so pedestrians, including those with vision impairments, can establish themselves in the crosswalk before motorists start making right and left turns.
- Incorporate pedestrian refuge islands into crosswalks.
- Clarify and enhance the visibility of pedestrian crossing areas by installing detectable warnings (e.g., rectangular rapid flash beacons [RRFBs]).

Example of a potential Hawaii-based placemaking element showing eight nene geese taking flight from a lava rock base surrounded by the illusion of water. The nene represent Hawaii's state bird, air flight, and the eight major islands flying from a base representative of our island state surrounded by the Pacific Ocean. (credit: Jill Butterbaugh)

Example of an iconic placemaking element at Los Angeles International Airport (AECOM, 2017)

Signalizing the Paiea/Koapaka Street intersection is also proposed to provide a safer environment for all modes of transportation.

In accordance with the Airport Master Plan, this plan recommends a new roadway connection between Ualena and Aolele Streets near Ohohia Street (see Figure 5-2). This would provide a more direct link to the H-1 Freeway on-ramp from Koapaka and Ualena Streets, resulting in fewer vehicles and large trucks circulating around the neighborhood and along Lagoon Drive. This would improve pedestrian safety by alleviating much of the large truck traffic at the intersection of Lagoon Drive and Aolele Street.

5.3 Open Space and Parks

Enhanced landscaping and street trees should be required for properties within the TOD Zone as the area undergoes redevelopment. Plazas are recommended to activate new retail and mixed-use commercial developments.

The Airport Station should have nearby convenience retail and dining in a park-like setting for open-air seating and respite in this heavily urbanized area. The station should also include a bicycle storage facility for commuters and area employees.

5.4 Land Use

As depicted in Figure 5-3, land use in the immediate station area should cater to airport-related users through dining, retail, hotels, lei stands, offices, and other mixed-use commercial options. In addition to identifying key streets, Figure 5-3 also identifies priority key streets that take design precedence over other key streets.

The U.S. Post Office building located across Rodgers Boulevard from the station has a large parking lot that is proposed for mixed-industrial uses similar to the facilities between Rodgers Boulevard and Paiea Street. Airport-related lodging, convenience retail, dining, and mixed-use commercial uses are proposed along Paiea Street.

In the area between the Airport and Lagoon Drive Stations, recommendations include increasing the density of industrial and commercial uses. With the scarcity of land, an emerging trend is to increase the density of industrial facilities by going vertical (e.g., multi-story warehouses).

Rendering of Prologis Georgetown Crossroads multi-story warehouse in Seattle (Prologis)

Table 5-2 provides a breakdown of the amount of mixed-use industrial, mixed-use commercial, retail, and hotel land uses proposed in the Airport Station area. These numbers assume the scenario shown in Figure 5-1. Up to 10 housing units will be allowed on mixed-use industrial parcels through discretionary permits.

Table 5-2: Airport Station Proposed Development by Land Use Type

Land Use	Square Feet	Percent
Mixed-Use Industrial	410,000	55%
Mixed-Use Commercial	115,200	15%
Retail	11,000	1%
Hotel	216,400	29%
Total	**752,600**	**100%**

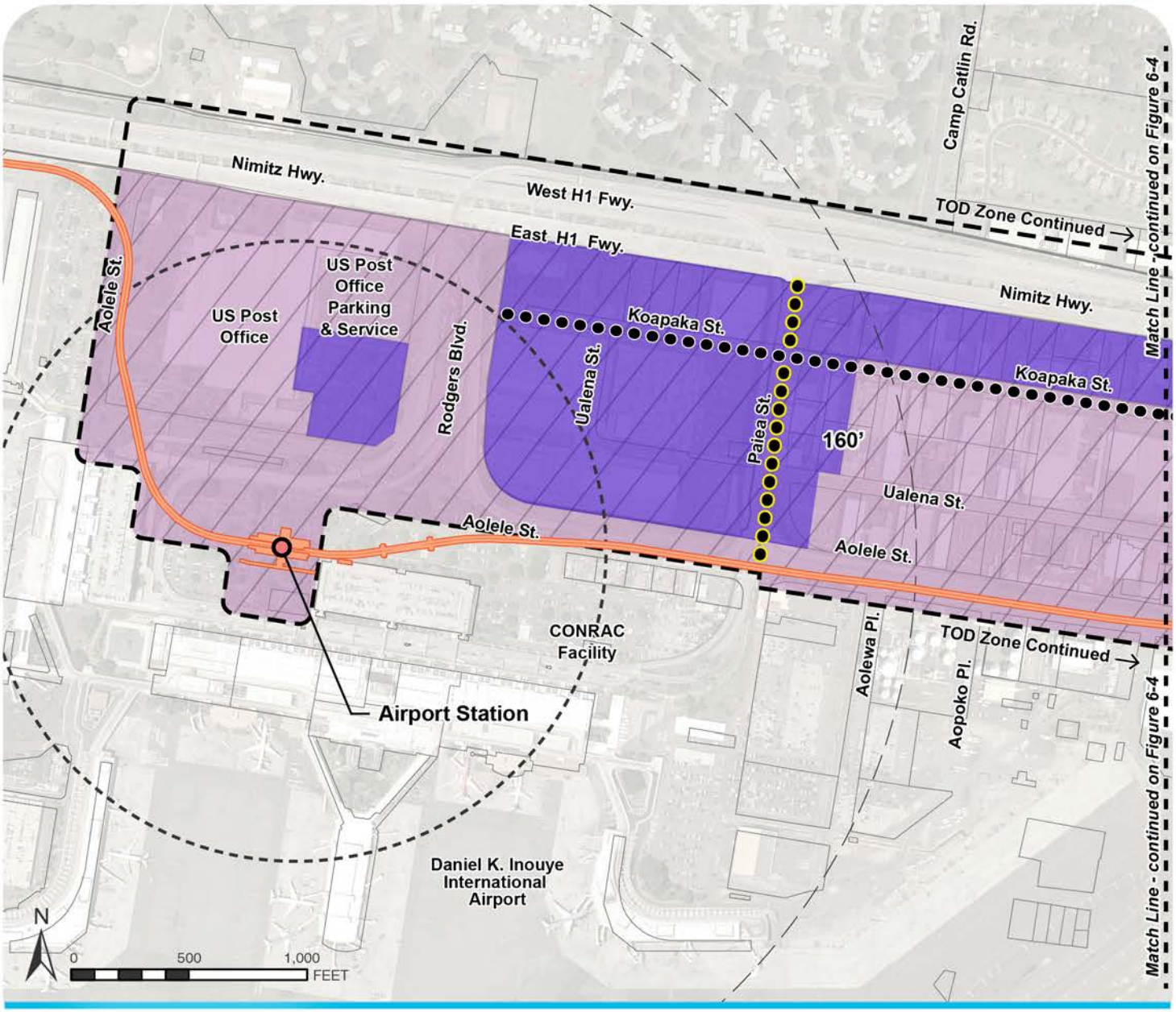


Figure 5-3: Airport Station Area Proposed Land Use/Zoning

Maximum Floor Area Ratios (FAR) and Height Limit

Legend

- Station Location
- Rail Guideway Alignment
- TOD Zone
- TMK Parcel
- Key Street
- Priority Key Street

Proposed Land Use/Zoning:

- Industrial (5.0 FAR with Bonus)
- Mixed-Use Industrial/ Commercial (5.0 FAR with Bonus)
- 160' Height Limit

Key Map

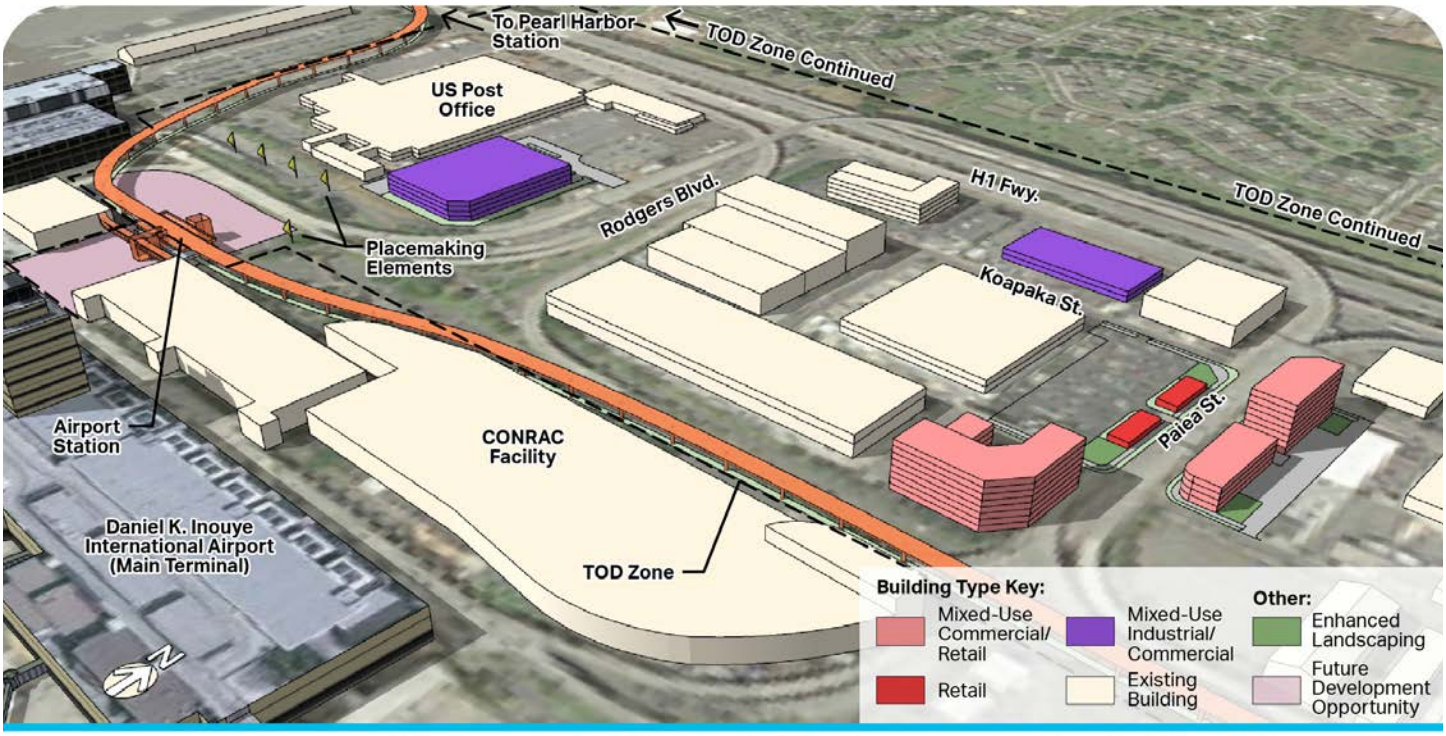


Figure 5-4: Airport Station Area Illustrative Massing

The Plan designates the area on Airport property surrounding the station as a Future Development Opportunity. This designation recognizes the development potential should HDOT allow it to occur at a future date.

The Plan recognizes that the Airport and Lagoon Drive Stations are within the 65-75 day-night average sound level (DNL) airport noise contours. Similarly, it is recognized that development in these station areas may be subject to potential fumes, smoke, vibrations, odors, and similar impacts resulting from aircraft operations. Therefore, no sensitive receptor uses have been proposed in these areas.

5.5 Urban Form

Should HDOT allow the area adjacent to the rail station to be redeveloped, it is recommended that building massing and density remain relatively consistent with the station and surrounding parking structures. The urban form at ground level should provide open space that conveys a Hawaiian sense of place and clear circulation patterns.

Figure 5-4 illustrates potential building heights and massing around the Airport Station. New mixed-use industrial buildings may resemble the Airport Industrial Park building and should face adjacent streets.

Koapaka Street is proposed as a TOD-designated key street. This key street designation for Koapaka Street extends from the intersection at Rodgers Boulevard to Lagoon Drive (see Figures 5-3 and 6-4). Buildings along key streets include additional design considerations and must incorporate active uses at the street level.

Currently, many of the businesses located between Nimitz Highway and Koapaka Street use Nimitz Highway as their "front door." Over time, with redevelopment of the Airport industrial area, there is potential to also have uses facing Koapaka Street.

New retail has been developed and more is proposed along Paiea Street, which is proposed as a TOD-designated priority key street, to facilitate ground-floor plazas and an active pedestrian streetscape. This priority key street designation for Paiea Street extends from the intersection at Nimitz Highway to Aolele Street (see Figure 5-3). Where two key streets intersect, the priority key street takes precedence for primary building frontage orientation.

Existing berms along Paiea Street should be removed to improve visibility, safety, and the overall pedestrian experience. New mixed-use commercial buildings along Paiea Street should be taller and of greater density than the existing surrounding buildings, and they should be located closer to the street.

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6.0

Lagoon Drive (Āhua) Station Area

6.0 Lagoon Drive (Āhua) Station Area

6.1 Vision and Overall Structure

The Lagoon Drive Station area is envisioned as an employment-focused TOD area and major rail access point for the Salt Lake neighborhood. Access to the many jobs located in the Waiwai Loop district, Airport industrial corridor, and lower Mapunapuna industrial area will become more convenient with the introduction of rail transit and the land use and circulation changes proposed near the station. Access to Keehi Lagoon Beach Park would also be improved with a multi-use pathway connecting Waiwai Loop to the park under the rail guideway. Clear signage and new urban design elements would assist with circulation and navigation.

The Lagoon Drive Station area is envisioned as an employment-focused TOD area, with convenient access to the Waiwai Loop district, Airport industrial corridor, and Mapunapuna industrial area.

Existing view looking mauka on Lagoon Drive near the Lagoon Drive Station. Waiwai Loop is on the right, and Ualena Street is on the left.

Proposed bicycle and pedestrian friendly intersection at Ualena Street/Waiwai Loop and Lagoon Drive. The ewa side of Lagoon Drive (left) includes repurposed mixed-use commercial buildings. The station is supplemented by an adjoining plaza with convenience retail and dining, located on the diamond head side of Lagoon Drive (right).

The immediate station area should feature a pedestrian-focused core with neighborhood-oriented services, such as convenience retail. The adjacent area will attract some new commercial and industrial buildings that will benefit from transit access. Figure 6-1 shows the illustrative plan for the area.

Although this plan focuses primarily on the area within ¼-mile around the Lagoon Drive Station, it is anticipated that with the introduction of rail, the Mapunapuna industrial area and the Airport industrial corridor will also change.

A DHHL TOD Feasibility Report (September 2019) evaluated conceptual redevelopment plans for DHHL landholdings in lower Mapunapuna, including multi-story industrial uses. However, redevelopment in this area is challenged by sea level rise and flooding.

Properties with private setbacks will need them removed or else obtain an exemption from conflicting TOD requirements through the permitting process.

6.2 Connectivity and Circulation

The Plan focuses on improving the pedestrian environment around the station and establishing connections between the station and surrounding uses. Proposed circulation improvements are shown in Figure 6-2.

The pedestrian environment immediately around the station should be enhanced through sidewalk upgrades along Lagoon Drive between Nimitz Highway and Aolele Street and along Waiwai Loop. A multi-use pedestrian and bicycle path connecting Waiwai Loop and Keehi Lagoon Beach Park is also recommended.

View from Keehi Lagoon Beach Park looking toward the former buildings on HART's Waiwai Loop property

View from Keehi Lagoon Beach Park of new multi-story mixed-use commercial buildings proposed adjacent to HART's maintenance yard with an adjoining multi-use path to connect Waiwai Loop and Keehi Lagoon Beach Park

Figure 6-1: Lagoon Drive Station Area Illustrative Plan

Legend

- Station Location
- Rail Guideway Alignment

Building Type Key:

- Mixed-Use Commercial/Retail
- Retail
- Mixed-Use Industrial/Commercial

Other:

- Roads
- Parking
- Enhanced Landscaping
- Plaza and Pathways
- TOD Zone

Key Map

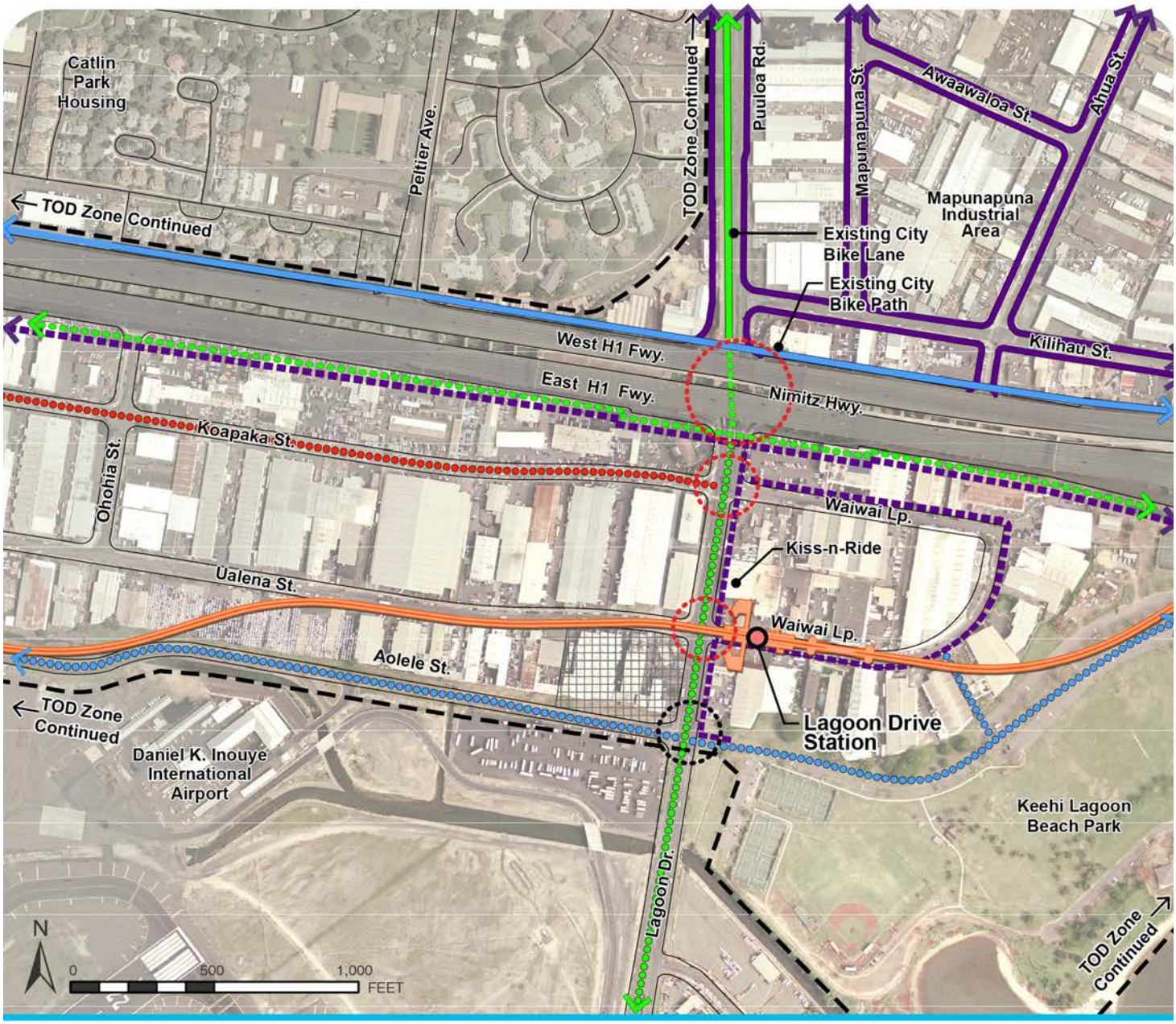

Figure 6-2: Lagoon Drive Station Area Existing and Proposed Circulation

Legend

- Station Location
- Rail Guideway Alignment
- TOD Zone

Crosswalks

- Proposed Crossing Improvements

Bike/Pedestrian

- Existing Bike Lane
- Proposed Bike Lane
- Existing Bike Path
- Proposed Multi-Use Path
- Proposed Bike Route
- Existing Sidewalk
- Proposed Sidewalk Improvements

Roadways

- Existing Roadway
- Proposed Roundabout

Other

- District Parking

Table 6-1: Oahu Bike Plan Recommendations for the Lagoon Drive Station Area					
Project ID	**Name**	**Description**	**Type**	**Owner**	**Length (mi)**
2-181	Lagoon Dr.	Nimitz Hwy. to End	BL	State	2.29
2-186*	Nimitz Hwy.	Valkenburgh St. to Sand Island Access Rd.	BL	State	6.03
2-187	Puuloa Rd.	Salt Lake Blvd. to Nimitz Hwy.	PBL	State	0.71
3-169*	Aolele St.	Airport Loop to Lagoon Dr.	BL	State	0.87

Source: Oahu Bike Plan (2019)
Bicycle Facility Acronyms: BL = Bike Lane; PBL = Protected Bike Lane
*Project overlaps Airport and Lagoon Drive Station areas

Intersection improvements to increase pedestrian safety are proposed at the intersections of Lagoon Drive and Ualena Street, and Lagoon Drive and Koapaka Street (both Ualena and Koapaka Streets become Waiwai Loop east of Lagoon Drive). Specific improvements for these intersections include signalized crossings and widened pedestrian safety refuge islands in the road median.

A shared multi-use path should be installed along the length of Aolele Street.

Improvements to the sidewalk along the Nimitz Highway frontage road should be undertaken in conjunction with any redevelopment of adjacent properties.

A new connection to Kakoi Street, such as an extension of Awaawaaloa Street, is recommended to improve connectivity in the Mapunapuna industrial area and to create secondary access to those properties in consideration of flooding and sea level rise impacts. The DHHL and other State landowners in the area could consider access easements or other methods to achieve a new access route since it would mostly benefit their properties.

Table 6-1 shows the recommendations from the Oahu Bike Plan for the Lagoon Drive Station area. This plan mostly reiterates the Oahu Bike Plan (except for Ualena Street as a shared roadway upon further examination) and makes additional recommendations, as shown in Figure 6-2, including the multi-use paths described above (also in place of bike lanes on Aolele Street).

The station is within ¼-mile of a major bike path along the mauka side of Nimitz Highway. The station is also within a 10- to 20-minute bike ride of several military housing areas and the dense civilian residential community of Salt Lake. For bicyclists and pedestrians, crossing the multi-lane Nimitz Highway to access the station is both a physical and psychological barrier.

To improve connectivity across Nimitz Highway, the following measures are proposed:

- Remove right-lane "porkchops" and replace them with enlarged pedestrian zones.
- Restrict right turns on red.
- Increase crossing times so that people who walk slowly will have sufficient time to cross before the signal indication changes.
- Provide pedestrian lead-time and an accessible pedestrian signal so pedestrians, including those with vision impairments, can assert themselves in the crosswalk before motorists start making right and left turns.
- Incorporate pedestrian refuge islands into crosswalks.
- Clarify and enhance the visibility of pedestrian crossing area by installing detectable warnings (e.g., RRFBs).

Parking is generally lacking throughout the area. The proposed District Parking area shown in Figures 6-1 and 6-2 at the corner of Ualena Street and Lagoon Drive could alleviate some of the existing parking shortage, and take advantage of an otherwise development-restricted site.

Proposed circulation improvements at the station include a "kiss-n-ride" area to accommodate vehicular drop-off and pick-up of transit passengers. This plan proposes that the kiss-n-ride be located on the diamond head side of Lagoon Drive, mauka of the station entrance. In addition to proposed bicycle parking, secure bicycle storage facilities should be provided in the proposed plazas on both sides of the station, providing a safe, sheltered, and well-lit environment where commuters can store their bicycles.

A roundabout is proposed at the Lagoon Drive and Aolele Street intersection to enhance bus movements, access to the station, vehicular efficiency, including for large trucks, and pedestrian safety. A concept of

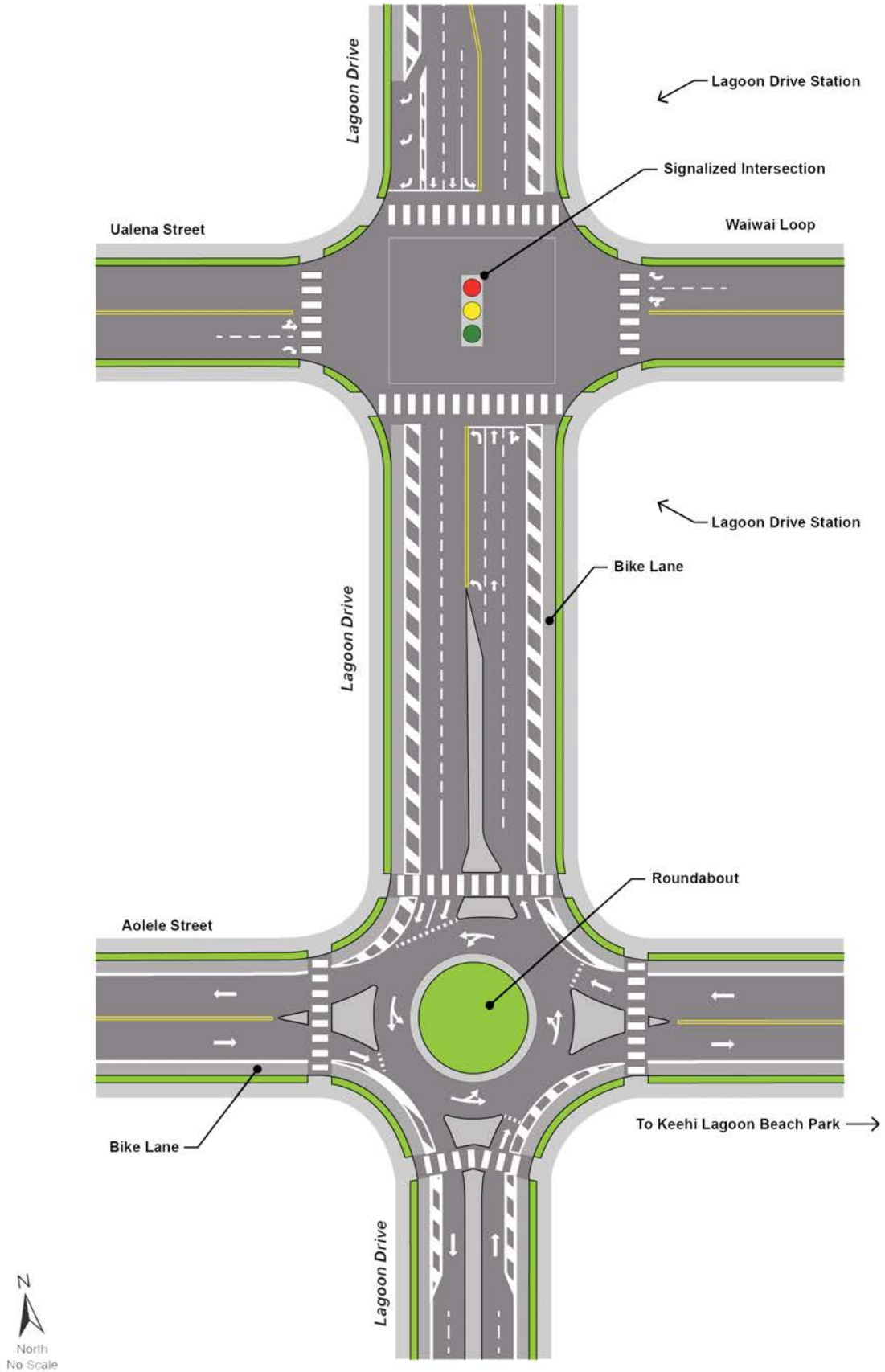

Figure 6-3: Lagoon Drive/Aolele Street Roundabout Concept

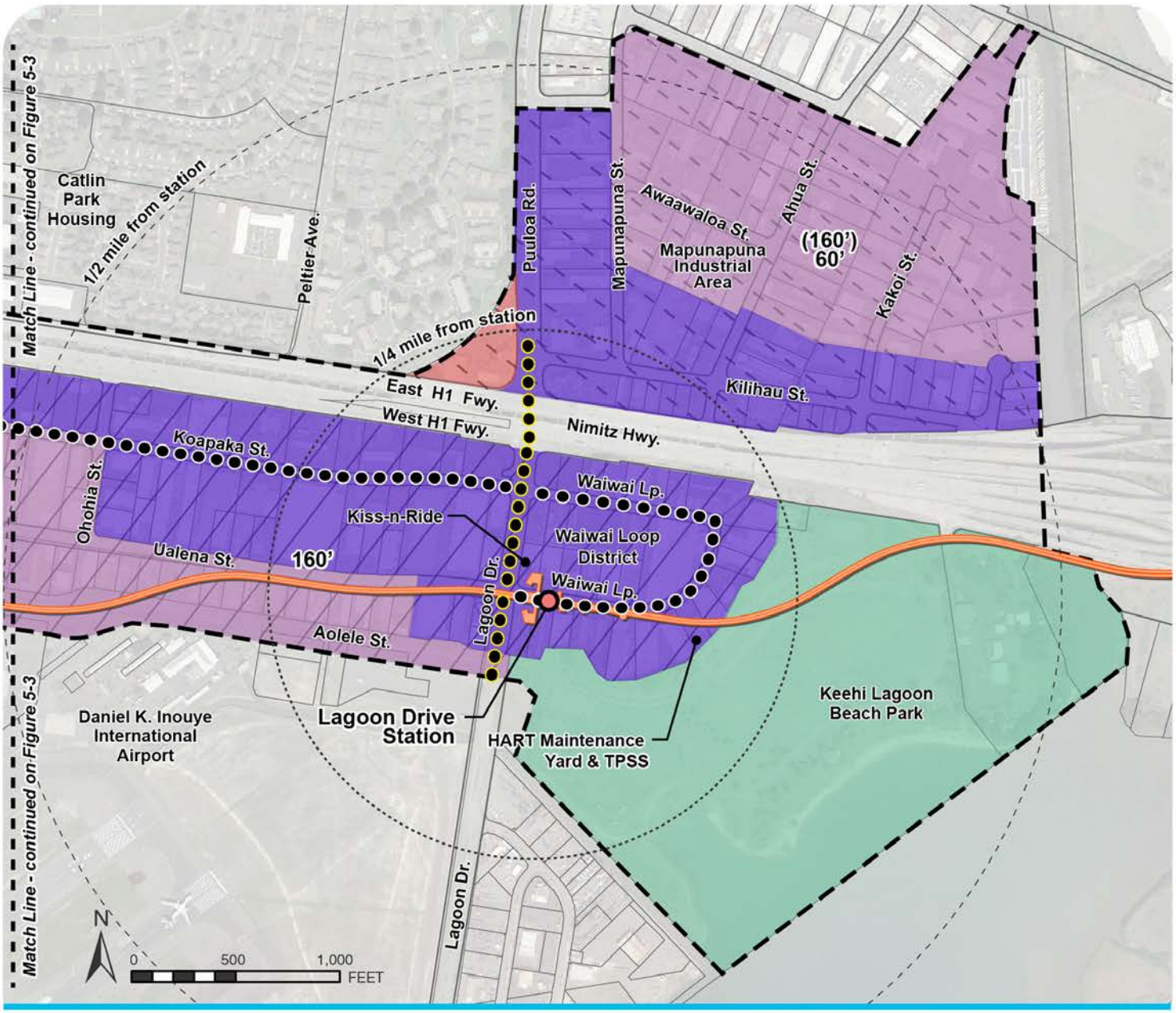

Figure 6-4: Lagoon Drive Station Area Proposed Land Use/Zoning

Maximum Floor Area Ratios (FAR) and Height Limits

Legend

- Station Location
- Rail Guideway Alignment
- TOD Zone
- TMK Parcel
- Key Street
- Priority Key Street

Proposed Land Use/Zoning:

- Industrial (5.0 FAR with Bonus)
- Mixed-Use Industrial/ Commercial (5.0 FAR with Bonus)
- Mixed-Use Commercial/ Retail (7.0 FAR with Bonus)
- Park
- 160' Height Limit (Subject to FAA Glideslope Height Limits)
- (160') Bonus Height Limit 60' Height Limit (Subject to FAA Glideslope Height Limits)

Key Map

the proposed roundabout, which could also include a placemaking element, is shown in Figure 6-3.

6.3 Open Space and Parks

Both sides (mauka and makai) of the Lagoon Drive Station should be enhanced with large plazas adjoining the station plazas. The larger spaces could accommodate convenience retail, dining, and outdoor seating areas. Bicycle storage and bikeshare rental facilities should also be located in the area.

Enhanced landscaping and street trees should be required for properties within the TOD Zone as the area undergoes redevelopment. Properties subject to deep setbacks are encouraged to explore activating or otherwise utilizing unused space, such as for trees and wider sidewalks.

Keehi Lagoon Beach Park is located within ¼-mile of the station. A multi-use pedestrian and bicycle path is proposed to connect Waiwai Loop and the park under the rail guideway. This multi-use path could ultimately provide a link through Keehi Lagoon Beach Park between the Lagoon Drive and Middle Street Stations. Improvements are recommended to park sidewalks (existing and new) to connect to Lagoon Drive sidewalks and the new multi-use path under the rail guideway. More shade trees should be planted at key locations throughout the park, particularly in areas that will enhance the pedestrian experience (e.g., walking to the park from the Lagoon Drive Station) without interfering with park user activity space.

6.4 Land Use

The land uses recommended for this station area, as shown in Figure 6-4, reflect input on the alternatives received from community stakeholders. The majority of stakeholders felt strongly that the surrounding areas remain in their existing commercial, industrial, and warehouse uses, and there was limited support for allowing lodging or residential uses.

Retail is proposed along Lagoon Drive between Nimitz Highway and Aolele Street to serve the neighborhood and rail passengers. Other proposed uses include mixed-use commercial and mixed-use industrial, preferably more dense, multi-story warehousing. In addition to a maintenance yard, commercial land uses are also proposed on the HART-owned parcels under the rail guideway between Waiwai Loop and Keehi Lagoon Beach Park.

Long-term parking and/or a bus transfer point is proposed for the vacant land within the Airport's RPZ, bordered by Ualena Street, Aolele Street, and Lagoon Drive, since there is limited parking and bus stop space in the area and no structures can be built on these lands.

Table 6-2 provides a breakdown of the amount of mixed-use industrial, mixed-use commercial, and retail land uses proposed for the Lagoon Drive Station area. These numbers assume the highest and best buildout scenario as shown in Figure 6-1.

Figure 6-4 also identifies key streets and priority key streets that take design precedence over other key streets.

Table 6-2: Lagoon Drive Station Area Proposed Development by Land Use Type

Land Use	Square Feet	Percent
Mixed-Use Industrial/ Commercial	96,000	23%
Mixed-Use Commercial/ Retail	267,600	65%
Retail	48,300	12%
Total	**411,900**	**100%**

6.5 Urban Form

Figure 6-5 illustrates potential building heights and massing around the Lagoon Drive Station. The buildings immediately around the station would be lower in height to comply with flight path restrictions. New mixed-use commercial buildings may vary in height and scale but should be more dense than existing buildings. More intensive mixed uses should be located closer to Nimitz Highway.

Lagoon Drive is proposed as a TOD-designated priority key street. This priority key street designation for Puuloa Road/Lagoon Drive extends from the intersections at Kilihau Street to Aolele Street (see Figure 6-4). Buildings along key streets include additional design considerations and must incorporate active uses at the street level. Where two key streets intersect, the priority key street takes precedence for primary building frontage orientation.

Koapaka Street and Waiwai Loop are also proposed to be TOD-designated key streets. This key street designation for Koapaka Street would extend from the intersections at Lagoon Drive to Rodgers Boulevard in the Airport Station area (see Figures 5-3 and 6-4). Currently, many of the businesses located between Nimitz Highway and Koapaka Street use Nimitz Highway as their "front door." Over time, with redevelopment of the Airport industrial area, there is the potential to orient these properties toward the more local road, Koapaka Street.

A 20-foot front yard setback exists on the two blocks makai of Nimitz Highway to Ualena Street, between

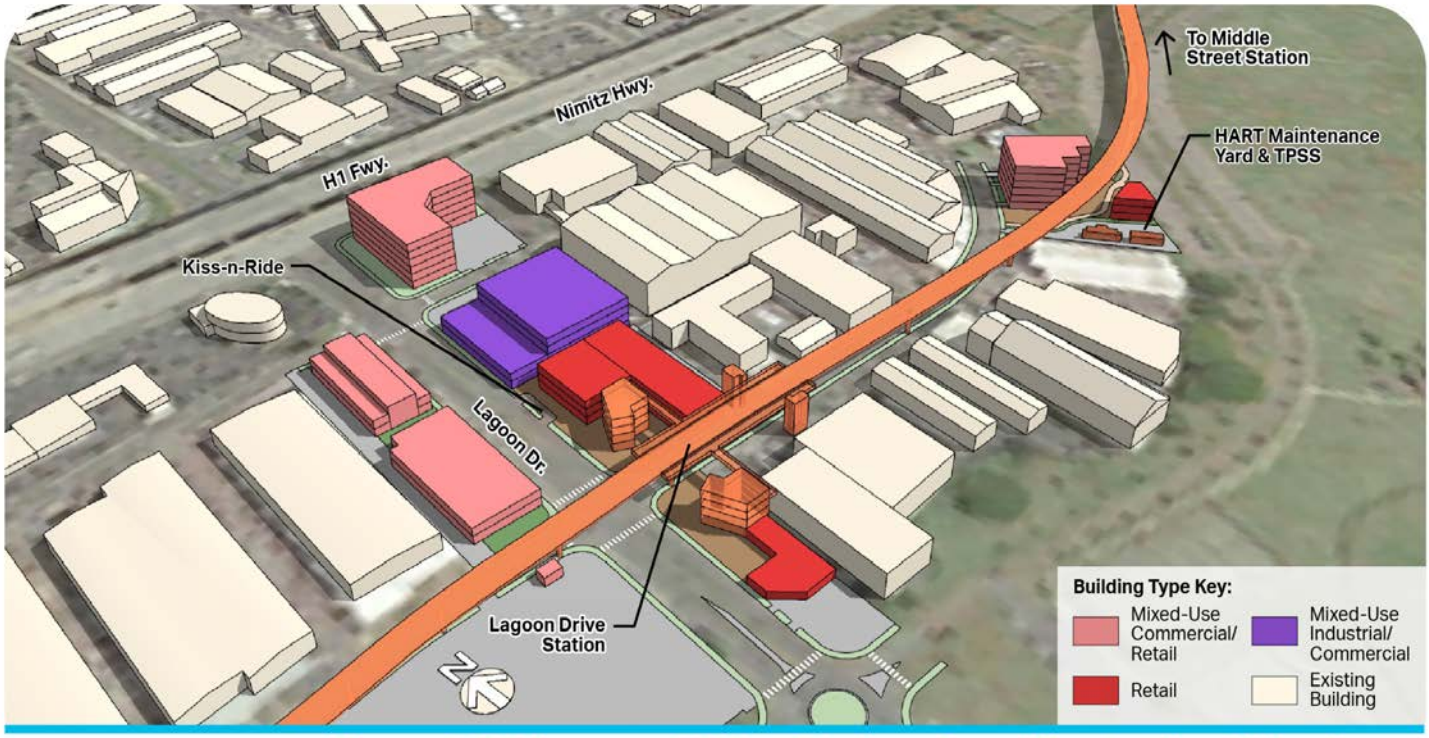

Figure 6-5: Lagoon Drive Station Area Illustrative Massing

Lagoon Drive and a few parcels ewa of Ohohia Street. This setback is no longer a zoning requirement, but it remains an encumbrance on the lots, as it is recorded on the Land Court Map associated with the Airport Industrial Park subdivision. The setback conflicts with TOD objectives to situate buildings close to the street (e.g., regulations applicable to other TOD neighborhoods require comparable uses be set back no more than 10 feet on key streets). As such, the setback is recommended for removal should an affected property owner pursue a subdivision action to delete the setback.

7.0
Implementation

7.0 Implementation

This chapter provides recommended strategies for implementation of the Plan.

The Plan identifies opportunities for new development, orderly growth, and improved accessibility around the Pearl Harbor, Airport, and Lagoon Drive rail stations. The recommendations are based on the underlying vision and principles for the three station areas.

7.1 TOD Special Districts

Following adoption of the Plan by the Honolulu City Council, the Plan recommendations will be translated into new ordinances and other implementing actions, including zone changes and the designation of a TOD Special District overlay. Certain areas that may be affected by sea level rise and are designated in the Plan for inclusion in the TOD Special District, or for zone changes, may need to be phased in at a later time after being more thoroughly assessed (e.g., further studies, regulations, or improvements).

LUO Section 21-9.20 explains that the purpose of a special district is "to provide a means by which certain areas in the community in need of restoration, preservation, redevelopment or rejuvenation may be designated as special districts to guide development to protect and/or enhance the physical and visual aspects of an area for the benefit of the community as a whole."

The TOD Special District is similar to other special districts in Honolulu (e.g., Chinatown Special District, Waikiki Special District), but is subject to TOD-specific development regulations and standards that primarily focus on building orientation and site layout. The overall intent of the TOD Special District is to incentivize and encourage development that helps to realize the community vision, according to each neighborhood TOD plan.

Applicability

The TOD Special District regulations are designed to supplement or modify the underlying zoning district. Property owners would be required to follow the TOD Special District regulations to develop their property. Properties will be required to adhere to various permitted and conditional uses, as well as certain specified densities, building heights, yards (setbacks), and parking requirements.

Incentives are offered as part of the TOD Special District regulations. For example, higher building heights and densities may be available in exchange for providing community benefits. Larger projects located within the TOD Special District are subject to a more detailed permit review process.

District Boundaries

In the Plan, TOD Zones are proposed for the three rail station areas. The TOD Zone reflects the area where the TOD Special District regulations will apply. Figures 4-3, 5-3, and 6-4 show the delineation of the TOD Zones for each respective station area. Most of the TOD Zones are within ½-mile (10- to 20-minute walk) of each station. However, these areas are adjusted based on natural and man-made barriers, as well as TOD potential. The area within ¼-mile of each station has the greatest potential for development to support transit and take advantage of the increased foot traffic through the area.

The TOD Special District around the Pearl Harbor Station is unusual because JBPHH (Navy) owns the majority of the land. These federally owned lands are not subject to City or State land use controls—land use is at the discretion of the federal government. However, off-base JBPHH-owned land is included in the TOD Zone because of proximity to the Pearl Harbor Station, its enormous development potential, and the possibility that the federal government could sell or lease its property to private development partners. While the City currently has no zoning authority over these areas, the Plan identifies the land uses, building heights, and densities that would be most compatible near the future rail station.

Land Uses

Zoning districts specify the types of land uses allowed on specific properties. TOD projects will be reviewed for conformity with the underlying zoning, in addition to the TOD Special District regulations. In general, the intent of TOD is to encourage a mix of uses within ¼- to ½-mile of the rail stations. The land use designations for the TOD Zones, as proposed in this plan, have been translated to recommended land uses, appropriate for their particular station area, as described in Chapters 4, 5, and 6.

The Pearl Harbor Station area currently hosts military uses, but is proposed to transition into a more diverse mix, including non-military residential, commercial, and community uses, consistent with the PUC DP. The Airport and Lagoon Drive TOD areas currently feature primarily industrial uses and will continue as such, but would also allow for a broader mix of commercial uses as recommended by the PUC DP. Community, stakeholder, and business/property owner surveys during the early part of the TOD planning process showed overwhelming support for retaining the area's industrial land uses while increasing the amount of flexibility for mixed uses and higher density. Therefore, industrial uses should be prioritized where commercial and residential uses are

also allowed (e.g., requiring an industrial component in projects), in order to avoid non-industrial uses completely taking over industrial areas.

Floor Area Ratio (FAR)

The FAR is a measure of floor area to overall site area and is used to define building intensities. The current underlying zoning allows FARs in the proposed TOD Special District areas within the range of 0.9-2.5. It is recommended that the upper end of existing underlying FARs remain in the TOD Special District. The maximum FAR throughout a TOD Special District is prescribed by the underlying zoning district, unless modified through a TOD Special District permit or Planned Development-Transit (PD-T) permit, through which an applicant may seek approval to exceed the base FAR up to a maximum FAR. The maximum FAR with a community benefit bonus is recommended to follow Section 21-9.100-8(a)(1) of the LUO that was added by Ordinance 17-54.

Allowing a higher FAR in certain areas helps to promote the City's TOD planning principle of "Create a framework for affordable communities," and the Pearl Harbor Area principle of "Redevelop NAVFAC Hawaii's property into a new civilian community with various housing types, commercial and retail uses, a new elementary school, park, and community center," as well as the intent of the TOD Special District FAR regulations to focus more intense development in the TOD rail station areas.

Community Benefits Bonus (CBB)

The use of a CBB is one of several development regulatory tools that should be used both to shape the growth and development in the Airport Area TOD rail station areas and to realize community values and goals. In their most basic form, CBBs are a means by which new development may exceed a baseline level of FAR and/or building height in exchange for providing support for community goals. Per the LUO, Section 21-9.100-9(e), community benefits must be proposed in a TOD Special District permit application to justify the bonus height and density, or to mitigate the impacts related to the modification of TOD Special District development standards.

The CBB should be used to support community principles, particularly in the Pearl Harbor TOD Area that includes "Redevelop NAVFAC Hawaii's property into a new civilian community with various housing types, commercial and retail uses, a new elementary school, park, and community center." The provision of affordable and workforce housing is an important goal for the community and, therefore, should be included as a baseline for participation in any CBB program. A bonus could be provided if more affordable housing is built than the baseline required amount, as established by the City's affordable housing requirement (AHR). Per Chapter 38 of the Revised Ordinances of Honolulu (ROH), there is a different AHR for TOD Special District projects seeking bonus height and/or density. If affordable dwelling units are being provided as a community benefit, those units must be in addition to the base AHR for TOD Special District projects.

Additionally, an overall principle of the Plan is to "Integrate neighborhood-scale gathering spaces in a way that promotes safety and a sense of ownership." Public open space becomes increasingly important as people begin to use rail transit and the station areas as central gathering places. The CBB could be used to provide for public spaces in all three rail station areas.

Other community benefits that may be achieved through this program could include:

- Pedestrian connectivity and streetscape improvements beyond minimum standards;
- Green development, including LEED certification;
- Space for non-profit organizations in office buildings or non-school buildings;
- Public art;
- Cultural facilities (e.g., visitor centers and museums);
- Community gardens and community center (including public swimming pools);
- Contributions for improvements to public facilities, such as fire stations;
- Dog parks; and
- Bikeshare infrastructure.

Height and Density

The TOD Special District will address building height and density applicable to specified zoning districts. All proposed projects within the TOD Special District will be reviewed for conformity with the standards. If smaller landowners comply with these standards, they may be able to apply directly for a building permit. If they seek additional height or density, seek to modify the TOD development standards, or are over an acre in size, they must apply for a TOD Special District Permit or Planned Development-Transit Permit.

To achieve height or density bonuses, the developer must provide community benefits, such as affordable housing beyond the base requirement, open space/parks, right-of-way improvements, improvements to existing community amenities, or enhancement of pedestrian and multi-modal transportation. New multi-family residential construction projects consisting of four or more dwelling units or investments in public infrastructure must comply with Fair Housing Act accessibility guidelines.

The LUO considers height from surface elevation. Certain exceptions allow development to exceed height limits, such as for mechanical equipment. The

Plan's recommended zoning heights may be affected by particular topographies due to FAA and HDOT restrictions that include height limits calculated from mean sea level. These absolute height limits cannot be exceeded and projects are subject to FAA approval.

There are several key design issues to consider for tall buildings, over 100 feet in height.

- How the podium (base) will affect the experience of the building at street level. Podium heights should be no taller than 60 feet and massed in a way to maintain street-level solar access.
- How the tower (middle) will affect building shadows.
- How the top will affect the building's aesthetic and experiential contribution to the development skyline.

Building design should also promote natural air circulation, while minimizing adverse wind conditions; provide proper setbacks for towers; and orient towers to optimize view corridors that do not interfere with sensitive military operations. Appropriate building design must take precedence over maximizing FAR.

Pearl Harbor Station Area

For the TOD Zone near the Pearl Harbor Station, the current zoning of F-1 Military and Federal does not specify maximum height or building density. This district serves as a placeholder to notate federal lands on the City zoning maps. According to the PUC DP, areas close to transit lines and the major east-west arterials should be zoned medium- to high-density residential mixed use. This is roughly equivalent to the BMX-3 Community Business Mixed Use District, which allows residential and commercial uses. As shown in Chapter 4, the area close to the station is proposed for the highest density with building heights up to 160 feet (or more if allowed by FAA), which can be zoned accordingly if the military relinquishes its control over the land.

Should the DOD decide to redevelop Little Makalapa and the NAVFAC Hawaii compound, as discussed and shown in Chapter 4, then a substantial portion of new development will likely be in the form of high-rise towers. Ensuring appropriate tower design in relation to mauka-makai view corridors, the public realm, and shadowing will play a key role in the future urban environment of the district.

Airport and Lagoon Drive Station Areas

The land around the Airport and Lagoon Drive Stations is owned primarily by the State and various private landowners. Currently, the zoning is predominantly I-2 Intensive Industrial with allowable building heights up to 160 feet. Within the commercial/industrial area between Nimitz Highway and Ualena Street near the Airport, and several properties along Nimitz Highway, the zoning is IMX-1 Industrial-Commercial Mixed Use with heights allowed up to 160 feet. For the focus area, recommended uses are primarily for mixed-use industrial and secondarily for commercial uses to provide greater development flexibility. It is generally recommended that future building heights and base density be compatible with the existing regulations.

Parking Requirements

In general, TOD principles recommend a reduction in the required number of off-street parking spaces each development provides to reflect anticipated reductions in automobile dependency in transit-oriented neighborhoods. A reduction in parking encourages transit ridership, reduces urban runoff, and results in more efficient use of land. City Ordinance 20-41 revised the LUO Off-street Parking and Loading requirements, and there are no off-street parking minimums in TOD areas. In addition, the TOD Special District includes location and design considerations for parking and loading facilities to incorporate into developments.

Where a large number of parking spaces will continue to be needed (e.g., The Mall at Pearl Harbor and the Airport Station), district parking structures are recommended to free up land for other uses. In the broader Lagoon Drive Station area, parking requirements should primarily reflect industrial land use standards, as this district is envisioned to remain primarily a working industrial area dependent on truck and commercial vehicle access. A district parking lot is recommended in the Lagoon Drive Station area to alleviate existing parking inadequacies.

Bicycle Parking

Bicycle parking should be provided in secure and convenient areas for workers, shoppers, and residents throughout the TOD Special District. Bicycle parking is planned at all rail stations, and new projects must include bicycle parking that adheres to City Ordinance 20-41. LUO Table 21-6.3 specifies the number of short- and long-term bicycle parking spaces required for commercial, industrial, residential, and hotel uses.

Bike parks are also proposed adjacent to the Pearl Harbor and Lagoon Drive Stations. These facilities are secure, well-lit, and safe areas where transit riders can store their bicycles all day or overnight. This encourages bicycles as a viable mode of transit to and from the stations.

7.2 Revision to Previous Plans

The land uses proposed in the Airport area are generally consistent with the PUC DP land use designations, with one major difference due to conflicting sections of the PUC DP near the Pearl Harbor Station — the NAVFAC Hawaii site. The PUC DP recommends redevelopment of this area for housing to link the adjacent Moanalua

Terrace and Aliamanu residential neighborhoods. However, the PUC DP map needs to be updated to reflect residential or mixed use because NAVFAC Hawaii is currently designated as industrial. The TOD Plan proposes this as a new community, with a mix of residential, public facilities, and mixed commercial uses. The TOD Plan also proposes that the lands around The Mall at Pearl Harbor be used for expanded commercial activities, a modification to the PUC DP's designation as lower-density residential.

The areas around the Airport Station and the Lagoon Drive Station are identified in the PUC DP for industrial use. The TOD Plan supports the continuation of industrial activity as the primary land use but also proposes the expansion of industrial-commercial mixed-use zoning.

7.3 Environmental Design

Climate Change Adaptation

Development in the TOD areas should consider the best available science on climate change and sea level rise as it relates to on-site uses, building location and elevation, and the design of foundations, ground floors, and mechanical and electrical systems. All development impacted by sea level rise will need to employ best engineering practices that are designed to mitigate or avoid the impact of such effects, without major impacts on adjacent properties. The City's Climate Adaptation Design Principles for Urban Development document identifies recommended tools and best practices to incorporate into the design of building sites and structures.

Additionally, the City will need to plan for sea level rise impacts at the neighborhood scale, especially considering the mitigation and/or adaptation needed for infrastructure. This may be of particular concern in the Waiwai Loop area near the Lagoon Drive Station. This area is subject to flooding during heavy rains due to poor drainage infrastructure and low elevation. The Mapunapuna industrial area on the mauka side of Nimitz Highway is also subject to high-tide flooding, and predictive modeling using the Hawaii Sea Level Rise Viewer shows heavy and prolonged flooding in the future.

Green Buildings

"Green buildings" refer to structures and processes that are environmentally responsible and resource efficient throughout a building's lifecycle. Green buildings and methods are encouraged within TOD areas to lower energy and water use, minimize utility costs, reduce demands on public infrastructure, and create a healthier living and working environment.

To create green buildings, developers undertaking projects within the TOD Special District should be encouraged to design sustainability to the highest possible degree, such as through a Leadership in Energy and Environmental Design (LEED) rating for their given location and use. As described by the U.S. Green Building Council, projects pursuing LEED certification earn points across several areas that address sustainability issues. Based on the number of points achieved, a project then receives one of four LEED rating levels: Certified, Silver, Gold, or Platinum.

Green Streets

A green street is a stormwater management approach that incorporates vegetation (perennials, shrubs, trees), soil, and engineered systems (e.g., permeable pavements) to slow, filter, and cleanse stormwater runoff from impervious surfaces (e.g., streets, sidewalks). Green streets are designed to capture rainwater at its source, where rain falls. Conversely, a traditional street is designed to direct stormwater runoff from impervious surfaces into storm sewer systems (gutters, drains, pipes) that discharge directly into surface waters, rivers, and streams.

Green streets protect water quality in surface waters, rivers, and streams by removing most pollutants. They replenish groundwater supplies, absorb carbon, improve air quality and neighborhood aesthetics, and provide green connections between rail stations, parks, and open space. Vegetated curb extensions improve pedestrian and bicycle safety, and calm traffic.

The Honolulu Complete Streets Design Manual provides guidance and techniques aimed at implementing green streets. Guidance includes the different implementation methods as they relate to bioretention, detention, paving, delivery and conveyance, and inlet protection.

The City's Public Works Standard Details and Specifications address typical conditions of street infrastructure to maximize uniformity and also include green streets components.

Both of these documents should be consulted and the appropriate tools used for TOD-related street improvements.

7.4 Affordable Housing

An islandwide affordable housing requirement—the AHR—and associated incentives both became ordinances in 2018.

The AHR is set forth in ROH Chapter 38. Certain new for-sale developments must provide between 5 and 35 percent of the total units as affordable. The actual percentage provided depends on the affordable units' period of affordability, location, and whether for sale or rent. In addition, TOD projects seeking bonus height and density must provide a greater percentage within

that range, which is separate from any affordable units provided in exchange for the bonus height and density.

Ordinance 18-1 correspondingly provided incentives, including fee and park dedication waivers as well as property tax exemptions, for creating affordable units. However, most incentives were set to expire in June 2027. In addition, Ordinance 19-8 established a temporary program to accelerate the construction of affordable rental housing by relaxing certain building code standards and offering certain financial incentives. Ordinance 21-12 supplements this program by providing grants for these projects.

The federal government currently owns the two areas where housing is proposed in the Pearl Harbor Station area (Little Makalapa and NAVFAC Hawaii site). The federal government is not subject to the City's housing affordability requirements. However, if site ownership or jurisdiction is transferred to a non-federal (City, State, or private) entity, a zone change will likely be required, and the City's AHR would then apply to residential uses.

7.5 Streets and Connectivity

A primary objective of TOD is to create a pedestrian- and bicycle-friendly community surrounding a transit station. All TOD areas should emphasize improving the street environment for pedestrians and bicyclists, while improving connectivity throughout. This objective is consistent with Honolulu's Complete Streets Ordinance, adopted in 2012.

The TOD plans seek to provide safe mobility for pedestrians, bicyclists, and transit riders of all ages and abilities. This includes adherence to the national ADA, ensuring accommodations for persons with disabilities. Most of the streets in the Pearl Harbor Station area are under either federal or State jurisdiction, and many of the streets in the Airport and Lagoon Drive Station areas are under State jurisdiction. Any improvements to these streets are subject to applicable laws and agency standards. Improvements to City or City-maintained State streets must adhere to City standards and follow the applicable guidance from the Honolulu Complete Streets Design Manual (an outcome of City Ordinance 12-15).

Regardless of jurisdiction, all street and sidewalk improvements within the TOD Special District should be designed for multiple modes. Enhanced landscaping and street trees to shade and protect rail commuters should also be required for sidewalks within TOD areas. When utilities prevent street trees in the right-of-way, trees can be located in the front yard (closest to sidewalk). Building setbacks should consider mature tree canopy.

7.6 Open Space

Publicly accessible open space is a key component of a healthy transit-oriented community. The plan for all three Airport area stations includes landscaped plazas opening to sidewalks and usable open spaces. The availability of gathering spaces, shaded rest areas with seating, and Wi-Fi service are elements that help create comfort, a sense of place, and community. These open spaces will provide an important resource for transit users and the surrounding community.

The predominant form of new open spaces within each TOD station area would be urban plazas adjacent to the rail stations, and in conjunction with new and redeveloped buildings. Specific open space and park recommendations for each station area are described in Chapters 4, 5, and 6. The greatest amount of proposed open space is within the Pearl Harbor Station area, where a community park and numerous pocket parks are proposed on the NAVFAC Hawaii and Little Makalapa sites. Development of these properties would require that these open spaces be incorporated into the development plans, possibly as a condition of TOD Special District permit approval. Maintenance of newly created parks could be the responsibility of the property owner or whichever future jurisdiction(s) takes control of the area(s).

Private residential, commercial, and mixed-use development should be encouraged to incorporate publicly accessible pocket parks and plazas, possibly in exchange for additional density, height, or other incentives. Near the Pearl Harbor Station area, these types of open spaces are recommended within the proposed retail and commercial developments along Radford and Bougainville Drives. They are recommended as part of the proposed retail areas along Paiea Street near the Airport Station area. Near the Lagoon Drive Station, these features are recommended at the proposed retail areas on Lagoon Drive and the proposed development on Waiwai Loop.

7.7 Infrastructure

Pearl Harbor Station Area

The redevelopment of Little Makalapa and the NAVFAC Hawaii site for residential and commercial uses would increase water and sewer demand. These lands are federally owned and currently served by the Navy's water and sewer systems. If these areas are transferred out of Navy ownership and developed by a non-federal entity as civilian communities, municipal water and sewer service may need to be provided.

The City's existing sewer system along Salt Lake Boulevard in this area is sized to accommodate wastewater flow from the properties on the east side of the Salt Lake Boulevard. The federal land on the west

side of Salt Lake Boulevard is served by the Navy's sewer system. TOD on the federal lands would need local sewer and off-site sewer improvements from either the Navy or City sewer systems.

The City's sewer trunk system in the vicinity of the Airport and downstream to the Hart Street Wastewater Pump Station (WWPS) and Sand Island Wastewater Treatment Plant (WWTP) is generally adequate to accommodate anticipated development, exclusive of the potential for federal lands which have not been evaluated. New development on the Little Makalapa and NAVFAC Hawaii sites that might be connected to the City wastewater system will require future analysis to determine what, if any, upgrades would be required.

There are two large stormwater detention basins on the northeast corner of the NAVFAC Hawaii site. These two areas accept flood waters from sheet flow off Salt Lake Boulevard and the neighboring residential areas. Future development of the NAVFAC Hawaii site will require that these detention basins remain in place.

Schools near the Pearl Harbor Station are generally at or near capacity. Redevelopment of the Navy property and the addition of approximately 1,900 residences will require adding capacity to nearby schools and the development of a new school to accommodate the increased school-age population.

Airport and Lagoon Drive Station Areas

As stated previously, near the Lagoon Drive Station the Waiwai Loop area and lower Mapunapuna on the mauka side of Nimitz Highway both experience severe flooding. Adequate drainage improvements will need to be included as part of future redevelopment around the Lagoon Drive Station. Portions of Keehi Lagoon Beach Park and Keehi Lagoon Memorial Park, and most of the lower Mapunapuna area, will need to implement a multi-pronged approach to dealing with the effects of sea level rise. This could include, among other things: elevating infrastructure and roads, modifying existing buildings, replacing existing buildings with newly designed flood-resistant structures, modifying site conditions to accommodate green infrastructure, and vacating some areas for dedicated flood zones.

Upgrades to the City's Kamehameha Highway WWPS and Force Main system are in operation and the system is adequate to accommodate anticipated TOD. Individual developments in the TOD areas, depending on the location, may need local sewer improvements to connect to the City's system. Local sewer improvements may be required to systems which are owned by the State to accommodate additional flow.

Table 7-1: Station Area Infrastructure Cost Estimates (2017)

Infrastructure	Pearl Harbor Station Area	Airport/ Lagoon Drive Station Areas*	Total
Stormwater/ Drainage	$4.9 M	$2.0 M	**$6.9 M**
Potable Water	$27.4 M	$2.0 M	**$29.4 M**
Wastewater	$38.0 M	$0.30 M	**$38.3 M**
Transportation	$37.8 M	$9.7 M	**$47.5 M**
Total	**$108.1 M**	**$14.0 M**	**$122.1 M**

Note: *Infrastructure cost estimates are specific to the areas shown in the illustrative plans (i.e., Figures 4-1, 5-1, and 6-1). Does not include drainage strategies for Mapunapuna or sea level rise adaptation.

7.8 Finance and Maintenance of Public Improvements

Even though the majority of TOD will be privately initiated and financed, the City is responsible for certain public improvements, such as local street upgrades, regional sewer infrastructure, and administering the park dedication requirements (applicable to most residential developments). The State must also be a partner in TOD, addressing roadways and important TOD parcels.

To ensure the continued safety and quality of new public improvements, memoranda of understanding between responsible entities should be developed to establish maintenance jurisdiction over public and private improvements.

Many taxing tools are increasingly supplemented with non-tax sources, such as user fees and impact fees, as well as different types of special taxing districts. With these techniques, the level of service can be increased according to specific needs and the willingness or ability to pay.

Additional federal and non-federal financing options are available if additional park space, streets, or other public improvements are needed. Tools for raising revenues for parks and open space at the local level are diverse and expanding. In some localities, private maintenance and management of park space is common and gaining popularity as a means to provide high-quality spaces in residential and commercial developments.

New public spaces and infrastructure provided by private entities will also need to be constructed in

accordance with City standards in order to be dedicated to and maintained by the City.

The programs identified below provide a variety of finance mechanisms that could be pursued to fund and maintain park space, streets, or other public improvements.

Non-Federal Programs

Capital Improvement Program (CIP)

CIP is the City's discretionary infrastructure funding program. It is a capital program, and as such, it is a one-time use of City funds as opposed to funding for continuing operations and maintenance.

Impact Fees

Impact fees are those development fees collected by the City and used for project-specific capital improvements. These fees are generally used for infrastructure services (water and wastewater) and parks and recreational facilities. Impact fees could be developed for transportation or stormwater.

Tax Increment Financing (TIF)

TIF is used to leverage future increased property taxes to pay for projects within a geographic area.

Community Facilities District (CFD)

CFDs are an assessment tool used by local governments to obtain community funding for neighborhood-specific improvements, including public services.

Business Improvement Districts (BID)

BIDs are an organizational tool used by businesses to pay additional taxes for improvements such as marketing, security, and street maintenance. Establishing a BID can help in the maintenance of capital improvement projects.

Community Benefits

Community benefits are neighborhood improvements developers provide in exchange for higher height and FAR bonuses.

Existing Localized Revenue Streams

Within the station areas are potential revenue sources (e.g., parking revenues) that currently go to the City's General Fund. Localizing these types of funds can provide a steady revenue stream for projects in the area.

Federal Programs

There are numerous federal programs aimed at increasing multi-modal connectivity, making roads and highways safer, encouraging more efficient transportation systems, and boosting bicycle and pedestrian access.

These federal programs offer a means to pursue funding for intersection improvements, bicycle and pedestrian facilities, and the development and maintenance of recreational trails.

The Community Development Block Grant is a program authorized under the U.S. Department of Housing and Urban Development as an initiative to fund local community development (e.g., affordable housing, anti-poverty, and infrastructure development).

7.9 Implementation Partners

The intent of the Plan is that TOD be built primarily by the private sector, with the government providing policy guidance, meaningful incentives, supportive infrastructure, and where appropriate, public-private partnerships. Coordination at the City level is ongoing and conducted by a TOD working group (historically the Mayor's TOD Sub-cabinet) consisting of relevant agencies and departments. This section describes some of the primary partners that will be required for successful implementation of the Plan.

City Agencies

City agencies oversee development permits and the planning/design, construction, and maintenance of the City's public facilities and capital improvement projects.

Below are the City agencies that have oversight and responsibilities related to implementation of the Plan. The Mayor's TOD Sub-cabinet has also convened to coordinate and prioritize TOD-related plans, policies, and projects.

City Council

As the City's lawmaking body, the City Council sets islandwide laws and policies relating to government programs and services. The City Council makes the final approval of the Plan and recommended land uses/zoning.

Planning Commission

The Planning Commission has the responsibility to advise the City Council on the Plan and implementation through the LUO.

Department of Planning & Permitting

The DPP has primary responsibility for developing and implementing the Plan. DPP staff work with project applicants to help them meet the policies and standards adopted by the City Council. The DPP is also responsible for processing TOD zoning applications for land use approvals; construction and building permits; engineering and subdivision permits, including park dedication requirements; and wastewater permitting. The DPP's TOD Division coordinates all City departments' TOD implementation efforts.

Department of Transportation Services

The DTS will be involved with the improvement of local bicycle facilities, pedestrian crossings, and transit connections proposed by the Plan. The DTS consists of several divisions, each of which are critical to City street improvements, including:

- *Traffic Engineering Division:* Responsible for safe and efficient operation of City streets and intersections.
- *Transportation Planning Division:* Responsible for citywide transportation planning required by the federal transportation-funding program, and determining the City's transportation projects to be eligible for federal highway and transit funds.
- *Public Transit Division:* Responsible for constructing and operating bus transit centers, and installing and maintaining bus stops and shelters. This division also oversees the contractor operating the City's public transit system, and will include coordination with HART.

Department of Environmental Services (ENV)

The ENV manages the City's wastewater and solid waste disposal operations and facilities. Given the wastewater capacity constraints anticipated, planning by the ENV will be essential to ensure adequate sewer capacity to enable TOD.

Department of Design and Construction (DDC)

The DDC is charged with overseeing the City's CIP. Working in conjunction with other City departments, the DDC administers the development and implementation of capital improvements for most City agencies. These include infrastructure and facilities addressed by the Plan. The DDC is also responsible for land acquisition in support of other City agencies.

Department of Parks and Recreation (DPR)

The DPR is responsible for all City parks and recreational facilities, cultural and recreational activities, and City street trees. Coordination with the DPR will be required for any proposed actions concerning the Keehi Lagoon Beach Park, as well as the development of street tree plans for the station areas.

Department of Community Services (DCS)

The DCS is responsible for implementing programs to assist seniors, low-income households, and homeless persons. Coordination with the DCS (via the Mayor's Office of Housing) is recommended for any actions concerning affordable housing.

Honolulu Authority for Rapid Transportation (HART)

The HART is responsible for the planning, design, and construction of the City's elevated rail transit system. Coordination with the HART is integral to the success of the Plan, particularly as it relates to those areas adjacent to the stations, as well as any other HART-owned properties.

Board of Water Supply (BWS)

The BWS is responsible for managing the City's municipal water resources and distribution system, including demand and supply projections for future customers.

Department of Facility Maintenance (DFM)

The DFM is responsible for maintaining city roads, traffic signs, streetlights, bridges and streams, the stormwater system, buildings, and facilities within parks.

Department of Information Technology (DIT)

The DIT is responsible for facilitating the provision of high-speed broadband internet infrastructure to support economic development.

State Agencies

Department of Transportation (HDOT) - Highways Division

Collaboration will be required with the HDOT-Highways Division to implement bike and pedestrian facility improvements on State roads.

For the Pearl Harbor Station area, this includes recommendations related to:

- Interstate Route H-1 (Lunalilo Freeway and Queen Liliuokalani Freeway).
- Kamehameha Highway.
- Radford Drive from Kamehameha Highway to Bougainville Drive (Route 7351).
- Bougainville Drive from Radford Drive to Salt Lake Boulevard (Route 7350).

For the Airport Station area, this includes recommendations related to:

- Nimitz Highway.
- Rodgers Boulevard.
- Aolele Street.

For the Lagoon Drive Station area, this includes recommendations related to:

- Nimitz Highway.
- Aolele Street.
- Lagoon Drive from Nimitz Highway to Koapaka Street.

HDOT - Airports Division

The HDOT-Airports Division is also an important partner for implementing the recommendations on Airport property, as well as airspace height restrictions.

For the Airport Station area, this includes recommendations related to:

- Various pedestrian improvements, connections, and wayfinding.
- Airport placemaking elements.
- The Future Development Opportunity area adjacent to the Airport Station.

For the Lagoon Drive Station area, this includes the proposed surface parking lot on Airport property on the corner of Aolele Street and Lagoon Drive.

Department of Education (DOE)

Coordination will be required with the DOE regarding the impacts of growth on area schools, as well as the potential for a new public elementary school at the NAVFAC Hawaii site.

Federal Agencies

U.S. Navy

Coordination with the Navy will be a primary focus for the military property surrounding the Pearl Harbor Station area. Redevelopment of Little Makalapa, the federal fire station, the NAVFAC Hawaii site, and development on the surface parking surrounding The Mall at Pearl Harbor will require a long-term commitment and years of dedicated effort to achieve the vision described in Chapter 4. Redevelopment of these areas will require that the Navy either: (1) determine the property as surplus and, therefore, eligible for disposal as excess property; or (2) make the property available to local agencies and private developers through an Enhanced Use Lease (EUL).

The NAVFAC Pacific (the Command organization over NAVFAC Hawaii) set a precedent in December 2004 when they signed the Moanalua Center EUL with a Hawaii-based private development firm. It was praised as a dramatic application for effectively leveraging underutilized assets and property entitlements into direct facility benefits for the Navy without the need for appropriated funding. The project was successfully executed without acquiring additional real property assets or overcommitting government resources. It used private industry instruments to frame the development agreements, and the project terms maximized reinvestment and retained cash flow for the benefit of the government. In the subsequent years, the redevelopment of the area proved to be a success for the Navy, the developer, and the community at-large.

U.S. Postal Service (USPS)

Coordination with the USPS would be required for development on their property in the Airport Station area. Similar to the Navy property, development of this area will require that the USPS either: (1) determine the property as surplus and, therefore, eligible for disposal as excess property; or (2) make the property available to local agencies and private developers through an EUL.

General Services Administration (GSA)

The GSA is responsible for promoting the effective use of federal real property assets, as well as the disposal of real property that is no longer mission-critical to federal agencies. Coordination with the GSA will be required for the acquisition of any Navy or USPS properties should either of these federal agencies determine that applicable properties can be excessed. Below is the disposal process mandated by federal law. While these are the major steps, not every property goes through every step of the process.

1. *Excess Property:* When a federal agency no longer needs a property to carry out its program responsibilities, it reports this property as "excess" to its needs.
2. *Federal Transfer:* The GSA first offers excess property to other federal agencies that may have a program need for it. If another federal agency identifies a need, the property can be transferred to that agency.
3. *Surplus Property:* If there is no further need for the property within the federal government, the property is determined "surplus" and may be made available for other uses through Public Benefit Conveyances (PBCs), including homeless use, negotiated sales, or public sales based on the GSA's determination of the property's highest and best use.
4. *Homeless Conveyance:* If a property is suitable for homeless use, according to HUD, then the GSA must first consider transferring the property as a homeless conveyance before any other public benefit conveyance can be considered.
5. *Public Benefit Conveyance:* As a PBC, the property can be substantially discounted in price (up to 100 percent reduction in fair market value) if it is used for a specific public use that qualifies for a PBC through a partner federal agency.
6. *Negotiated Sale:* The GSA can negotiate a sale at appraised fair market value with a state or local government if the property will be used for another public purpose.
7. *Public Sale of Property:* If state and local governments or other eligible non-profits do not wish to acquire the property, the GSA can dispose of surplus property via a competitive sale to the public, generally through a sealed bid or auction.

Other Infrastructure

The following utilities are in adequate supply at or near the TOD Special District and would be generally able to accommodate significant future development.

Electrical

Hawaiian Electric Company (HECO) is the sole electric utility on Oahu. Underground and overhead electric service is widely available within the study area. It is

recommended that above ground transmission lines be placed underground with the introduction of TOD.

Telecommunication Services

Two major providers of telecommunication services are within the study area, Spectrum and Hawaiian Telcom. Both utilities provide telephone, internet, and television service. Hawaiian Telcom has a trunk line located along Kamehameha Highway which could provide service to future developments. Spectrum's system in the TOD district consists of fiber optic cable. The current system capacity is sufficient for the existing condition. Future expansion of the cable system may be potentially difficult because the Kamehameha Highway portion of the network is located in Hawaiian Telcom ductwork.

The City is also planning to incorporate high-capacity fiber optic cable in the transit system guideway.

Natural Gas

Hawaii Gas is the sole provider of natural gas service on Oahu. Within the TOD Special District, a 16-inch underground transmission line is located under Kamehameha Highway. The current capacity of the underground gas lines is good with no known trouble spots or deficiencies.

Future development may be supported through construction of new regulator lines which can tap off of the existing 16-inch diameter transmission line. One regulator line typically can service an entire development. Gas service can also be provided via above ground storage tanks where underground service is not available. Service requests must be made with the applicable utility provider.

7.10 Action Plan and Phasing

This section and Table 7-2 identify the recommended actions and phasing required to implement the specific plans for the Airport area stations. Phases are categorized into three timeframes: short-term (0-5 years), mid-term (6-15 years), and long-term (16-30 years). The table also identifies where the federal, state, and/or city government are responsible for implementation, as well as private parties.

Through Plan adoption, establishment of the TOD Special District, and modifications to area zoning, the City should provide incentives to developers to undertake projects in the station areas. The DPP will continue coordinating with other government agencies and the private sector to acquire applicable properties and improve infrastructure where needed. TOD projects will occur given the proper alignment of fundamental factors, including transfer of jurisdictional control, long-term lease arrangements, improvements to public infrastructure, favorable market conditions, and developer financing. These conditions are likely to occur at different times for different components of the Plan.

Due to some long-term implementation horizons and jurisdictional challenges, phasing will likely evolve over time. Therefore, the actions and phasing approach outlined in Table 7-2 should be updated approximately every five years after Plan adoption, or when major changes occur.

The following tools and strategies should be considered to move forward on TOD implementation in all station areas:

- Adopt financing incentive tools, with policy guidelines, to stimulate private development when development cannot be accomplished solely through traditional market factors. Options may include property tax credits, general excise tax credits, TIF, investment huis, and affordable housing state and federal funding (including long-term financing mechanisms).
- Establish priority funding to execute "Complete Streets" projects in TOD neighborhoods.
- Identify public-private partnerships for catalytic projects.
- Amend the LUO and other ROH chapters, as needed, in conjunction with implementation of station area actions.
- Amend the PUC DP to address changes brought about by the Airport Area TOD Plan.
- Coordinate all actions through the TOD Sub-cabinet and partner with other government entities on TOD opportunities.

Table 7-2: Airport Area TOD Plan - Actions and Phasing									
Action No.	Area	Action	Phase			Agencies/ Entities			
			Short-Term (0-5 years)	Mid-Term (6-15 years)	Long-Term (16-30 years)	Federal	State	City	Private
Pearl Harbor Station Area									
PH-1	Pearl Harbor Station Site	Modify the Radford Drive/ Kamehameha Highway intersection to provide safer intersection crossings for pedestrians and bicyclists.	Pursue funding; prepare plan/design documents; implement improvements			■	■		
PH-2	Pearl Harbor Station Site	Provide necessary infrastructure improvements (sewer, water, and electrical systems) to develop the proposed facilities adjacent to the station, i.e., dining, convenience retail, and bike park.	Pursue funding; prepare plan/design documents; implement improvements			■		■	
PH-3	Pearl Harbor Station Site	Redevelop properties adjacent to the station.		Pursue private development		■		■	■
PH-4	Pearl Harbor Station Site	Transfer federal jurisdictional control and maintenance responsibilities for the park adjacent to the station to the City.	Pursue and implement agreement between City agencies			■		■	
PH-5	Pearl Harbor Station Site	Modify the Radford Drive H-1 Overpass to accommodate widening for a multi-use pathway.	Pursue funding; prepare plan/design documents	Implement improvements		■	■		
PH-6	Pearl Harbor Station Site	Provide bike lanes along Radford Drive and Bougainville Drive.	Pursue funding; prepare plan/design documents; implement improvements			■	■		
PH-7	Little Makalapa & Federal Fire Station	Conduct environmental site investigation, remediation, and cleanup activities at Little Makalapa and federal fire station.	Perform environmental site investigation	Implement environmental cleanup		■			■

Table 7-2: Airport Area TOD Plan - Actions and Phasing									
Action No.	Area	Action	Phase			Agencies/ Entities			
			Short-Term (0-5 years)	Mid-Term (6-15 years)	Long-Term (16-30 years)	Federal	State	City	Private
PH-8	Little Makalapa & Federal Fire Station	Provide necessary infrastructure improvements (sewer, water, and electrical systems) to enable development on the Little Makalapa and federal fire station sites.		Pursue funding; prepare plan/design documents; implement improvements		■		■	■
PH-9	Little Makalapa & Federal Fire Station	Redevelop the federal fire station and Little Makalapa sites.		Pursue private development		■			■
PH-10	NAVFAC Hawaii Site	Conduct environmental site investigation, remediation, and cleanup activities at the NAVFAC Hawaii Site.		Perform environmental site investigation	Implement environmental cleanup	■			■
PH-11	NAVFAC Hawaii Site	Provide necessary infrastructure improvements (sewer, water [likely new well and reservoir tank], and electrical systems) to enable development of the NAVFAC Hawaii Site.		Pursue funding; prepare plan/design documents	Implement improvements	■		■	■
PH-12	NAVFAC Hawaii Site	Redevelop the NAVFAC Hawaii Site.			Pursue private development	■			■
PH-13	NAVFAC Hawaii Site	Transfer jurisdictional control, and planning and maintenance responsibilities, for new streets, infrastructure, and the new park and community center.			Pursue and implement agreement between City agencies	■		■	■
PH-14	NAVFAC Hawaii Site	Transfer jurisdictional control and operational responsibilities for any new school facilities.			Pursue and implement agreement between development partners and DOE	■	■		
PH-15	The Mall at Pearl Harbor	Facilitate an exclusive land use lease agreement with JBPHH to enable development on the surface parking lot adjacent to The Mall at Pearl Harbor.	Pursue and implement property transfer strategies	Execute lease agreement		■			■

Table 7-2: Airport Area TOD Plan - Actions and Phasing									
Action No.	Area	Action	Phase			Agencies/ Entities			
			Short-Term (0-5 years)	Mid-Term (6-15 years)	Long-Term (16-30 years)	Federal	State	City	Private
PH-16	The Mall at Pearl Harbor	Provide necessary infrastructure improvements (sewer, water, and electrical systems) to enable development of new retail and parking facilities on the surface parking lot at The Mall at Pearl Harbor.		Pursue funding; prepare plan/design documents	Implement improvements	■		■	■
PH-17	The Mall at Pearl Harbor	Redevelop the surface parking lot at The Mall at Pearl Harbor for retail and parking.		Pursue private development		■			■
PH-18	The Mall at Pearl Harbor	Construct the new H-1 freeway overpass connecting Center Drive with Bougainville Drive.		Pursue funding; prepare plan/design documents	Implement improvements	■	■	■	
Airport Station Area									
A-1	Airport Station Site	Incorporate iconic Daniel K. Inouye International Airport placemaking element(s) near the Airport Station.	Pursue funding; prepare plan/design documents	Install placemaking element(s)			■		
A-2	Airport Station Site	Develop the area adjacent to the station, including redeveloping the lei stands, and employee parking area.	Pursue development partner	Develop site			■	■	■
A-3	Airport Station Site	Provide wayfinding improvements to facilitate better pedestrian and bicycle movement to and from the station.	Pursue funding; prepare plan/design documents; Implement improvements				■	■	
A-4	Post Office Site	Conduct environmental site investigation, remediation, and cleanup activities at the Post Office site.		Perform environmental site investigation and cleanup		■			■
A-5	Post Office Site	Provide necessary infrastructure improvements to enable development on the Post Office site.		Pursue funding; prepare plan/design documents; implement development		■		■	■

Table 7-2: Airport Area TOD Plan - Actions and Phasing									
Action No.	Area	Action	Phase			Agencies/ Entities			
			Short-Term (0-5 years)	Mid-Term (6-15 years)	Long-Term (16-30 years)	Federal	State	City	Private
A-6	Post Office Site	Redevelop portions of the Post Office site.		Pursue private development		■			■
A-7	Other Airport Station Area Sites	Open Koapaka Street to Rodgers Boulevard.	Pursue funding; prepare plan/design documents	Implement improvement			■	■	■
A-8	Other Airport Station Area Sites	Implement intersection improvements at Paiea Street, Ualena Street, and Rodgers Boulevard at mid-block intersections between the post office and station.	Pursue funding; prepare plan/design documents	Implement improvements			■	■	
A-10	Other Airport Station Area Sites	Implement the proposed regional pedestrian and bicycle improvements.	Pursue funding; prepare plan/design documents	Implement improvements			■	■	
A-11	Other Airport Station Area Sites	Redevelop properties on Paiea Street and Koapaka Street.	Create and implement tools aimed at incentivizing development	Promote private development				■	■
A-12	Other Airport Station Area Sites	Connect Ualena Street with Aolele Street near Ohohia Street.	Advance DOT plans for street extension	Implement street extension			■	■	
Lagoon Drive Station Area									
LD-1	Lagoon Drive Station Site	Upgrade the infrastructure required to develop new retail and commercial uses in the areas adjacent to the station on HART's property.	Pursue funding; prepare plan/design documents; implement development					■	■
LD-2	Lagoon Drive Station Site	Develop areas adjacent to the station on HART's property.		Pursue private development				■	■

Table 7-2: Airport Area TOD Plan - Actions and Phasing									
Action No.	Area	Action	Phase			Agencies/ Entities			
			Short-Term (0-5 years)	Mid-Term (6-15 years)	Long-Term (16-30 years)	Federal	State	City	Private
LD-3	Waiwai Loop	Upgrade the infrastructure required to develop new retail and commercial uses on identified properties.	Pursue funding; prepare plan/design documents; implement development					■	■
LD-4	Waiwai Loop	Facilitate a public easement providing for a multi-use pathway connecting Waiwai Loop with Keehi Lagoon Beach Park on the HART Maintenance Yard property.	Secure easement					■	
LD-5	Waiwai Loop	Develop the areas adjacent to the HART Maintenance Yard for commercial uses.		Pursue private development				■	■
LD-6	Other Lagoon Drive Station Area Sites	Develop proposed bike lanes and pathway along Lagoon Drive and Aolele Street.	Pursue funding; prepare plan/design documents	Implement improvements			■		
LD-7	Other Lagoon Drive Station Area Sites	Explore feasability and implement plans to develop a surface parking lot on the DOT parcels abutting Ualena Street, Lagoon Drive, and Aolele Street.	Pursue funding; prepare plan/design documents	Implement improvements		■	■		
LD-8	Other Lagoon Drive Station Area Sites	Develop and implement pedestrian and bicycle intersection improvements at Koapaka/Waiwai Loop and Ualena/Waiwai Loop, and a roundabout at Lagoon Drive/ Aolele Street.	Pursue funding; prepare plan/design documents	Implement improvements			■	■	
LD-9	Other Lagoon Drive Station Area Sites	Redevelop private properties along Lagoon Drive.	Create and implement tools aimed at incentivizing development	Promote redevelopment				■	■

Note: It is important to note that the Navy/federal government has not officially endorsed this plan and will continue dialog over time.